

# MINICAM



The Miniature Camera Monthly



BEACH BEAUTY

By HENRY CLAY GIPSON

When it's a color picture, the temptation is to include every color of the rainbow. Keeping colors subdued, and limiting the subject to one hue, can produce a beautiful and harmonious result. Kodachrome film provides excellent flesh tones in bright sunlight. The subject is Miss Virginia Reed, at Coral Beach, Bermuda. Camera, Eastman Bantam Special, 1/25th second at f11.

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# C O N T E N T S

Vol. 2

SEPTEMBER, 1938

No. 1

## MINICAM MONTHLY

WILL LANE, *Editor*

### COVER

Bicycle Built For One.....Dufaycolor.....By Frank Randt

### COLOR PLATE

Beach Beauty.....Kodachrome.....By Henry Clay Gipson

### ARTICLES

Candid Portraits..... 11

By C. Stanton Loeber

Sunlight Control..... 20

By William Botts

Low Key for Accent..... 24

By Reg. O. Lissaman

Photographing Wild Giraffes 28

By Dorothy W. Dixon

Angle Does It..... 30

By Richard Wurts

Distortion..... 35

By Willem Lyons

Viewpoint Makes the Kid

Shot..... 40

By Elizabeth Hibbs

Sails in the Wind..... 41

By Henry Clay Gipson

Butterflies on the Wing.... 50

By Roger E. Richard

Developing Your First

Negative..... 62

By Lew Nichols

### FIVE-MINUTE FEATURES

Speed Shots—Faked to Order 18

Copying with an Enlarger.. 60

How to Use Flash..... 70

Shooting "On the Hoof"... 97

### MONTHLY DEPARTMENTS

In Focus..... 4

Pictorial Analysis..... 54

Being Critical..... 57

Build It Yourself..... 59

Book Reviews..... 81

Trade News..... 82

Darkroom Kinks..... 94

Questions and Answers.... 98

### CINECAM

Trick Effects with the "8".. 99

How Hollywood Uses the

Exposure Meter.....102

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### Virgin Islands

Sirs,

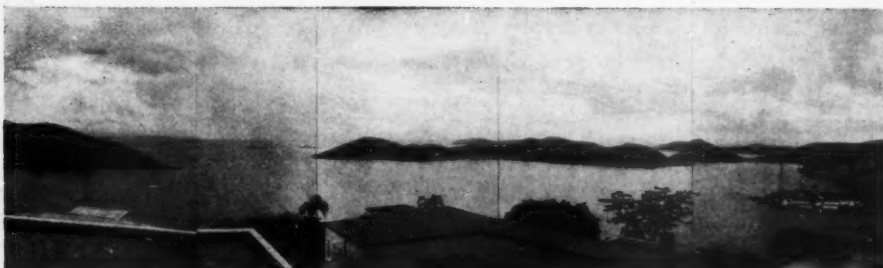
I was interested in your article on "Panoramas" in the June issue of your magazine as

I tried this same idea myself last September while on a cruise with the U. S. Naval Reserve to Saint Thomas, Virgin Islands.

I am sending herewith a panorama picture of the harbor of Saint Thomas I took with a Foth-Derby camera, f11 at 1/50 with a K-2 filter on Panatomic film.

As no tripod was used and as I, no doubt, moved somewhat between exposures, the foreground is a little distorted, but the picture gives a good idea of the appearance of this beautiful harbor. Note the two battleships at the entrance of the harbor and the heavy rain-storm directly behind them.

Many landscape, seascape and mountain views are disappointing because the eye sees a much wider angle than the camera. For gratifying results, I make panorama pictures by





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simply pasting together two or more shots taken from one spot.

CHARLES C. PYNE

Rumford, R. I.

## "Excellent Until —"

Sirs:

I have been a consistent reader of your magazine since it appeared on the news stands and it has been a very excellent magazine up until the June issue. If another such issue appears I for one and several others of whom I know and am associated with, will have to omit your magazine from our list.

The particular portion of the issue which makes such action necessary is the article entitled "Tips For The Timid."

The time when the minicam's chief use is to get the forbidden shots is definitely past. In fact, nearly all of the miniature cameras now being sold are for the cheapness of operation and compactness of the camera rather than an irresistible urge to get those forbidden pictures. The fact that so many people are taking advantage of the smallness of their cameras to smuggle pictures is definitely responsible for the increasing restrictions on cameras, and if it keeps up the restrictions together with public sentiment which is constantly growing against these cameras will completely outlaw them.

Other camera magazines have recognized this and are warning the candid shooter to have a little respect for the feelings of the general public as well as the restrictions of various national institutions such as Navy and Army posts. Failure to do this will result in strong enforcement of the restrictions with a resulting loss of camera and even jail sentences for the offenders.

Surely your staff can see that these facts are at least true to the extent mentioned. So let's join the crusade for safe and sane use of the minicam to reduce costs of pictures and increase the facility of picture taking.

E. H. VAN ANTWERP

Watervliet, N. Y.

• MINICAM is 100 per cent in accord with reader Van Antwerp's sentiments for the "safe and sane use of the minicam to reduce picture costs and increase the facility of picture taking." But the technique of taking pictures when subjects are natural and unaware of the camera cannot be neglected. It is important to newsmen and pictorialists alike, as indicated by the article "Candid Portraits," on page 11, this issue.

## Trick Shots

Sirs:

Having no ground glass on my Kodak Special 616, the enclosed trick shots were made by covering part of the lens, guessing for each exposure. I now can take a picture of one person up to twelve times so that he looks like a whole gang. The background blends perfectly. These are not retouched, copied, pasted up or spliced in any way. They are

contact prints. In what issue did MINICAM have an article on trick photography?



MINICAM is full of good stuff, but would like to see more about special effects, stunts, candid tricks, and the "inside dope" generally. Newspapers and picture

books have the ordinary stuff. Why not show us some of the extraordinary?

DOUGLAS I. BATES

Seattle, Wash.

• For the article describing exactly how to make trick shots, including multiple exposures, see "Photographing Ghosts" in MINICAM for January. Information on making "ghost" shots with a movie camera will be found in the article in this issue, page 99.—Ed.

### "Glaring Error —"

Sirs:

I'm not a "sticker" for details, but when I read the article "Moods of Beauty" in the July issue, I couldn't help seeing the glaring error in the spelling of the word "subtle." I slipped



out my trusty Contax, shoved on my ten-cent store eye-glass and shot it at 1/5th second at f/22 with one photohood.

Don't take this criticism to heart; I believe you have a first-class "rag."

EDMOND R. BOSWORTH.

Cincinnati, Ohio.

• All credit to eagle-eyed lensman Bosworth for spotting this typographical error. MINICAM apologizes for misspelling the word "subtle."

### Couple of Portraits

Sirs:

The picture of a Sea Lion in April MINICAM "What chin will you, etc.," struck a familiar

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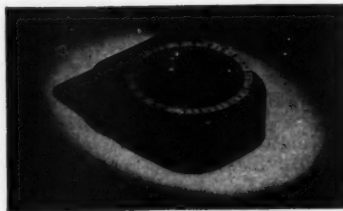
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chord in my breast as you can easily imagine from the enclosed picture which I took in the Berlin Zoo last summer, and remains one of my favorites of over 700 photos of Europe. Outside of a slight difference of camera angles, where I concede myself second best in choices,



they might be the same picture. Mine was taken on Isopan with a Dollina II.

Also would like to tell you a bit about some experimenting in self portraits. The idea hit me as I chanced to see my reflection in a mirror while lighting a cigarette. Both hands being in the picture, I opened the camera in a dark room, focused on a chair, walked around and sat in the chair and flipped on a lighter. First exposure, overexposed (14 seconds at  $f/2$  on Finopan) and bad lighting. Second, correct exposure (lighter on and off, less than a second, at  $f/11$  on Ultra Speed).

Since then I have taken snaps of friends at  $1/25$ th at  $f/2$  using as little as a paper match. The nose is usually the most exposed, and the front of the face must be burned in, and a subject with a mustache presents a particularly hard job.

Knowing how interested you are in rank amateurs bettering themselves, and in encouraging experimental work, I thought you might like to make a note of the job, which has never been tried around here as far as I know.

Also hope my sea lion tickles you as much as it and the one published in MINICAM does me.

I like MINICAM because it encourages experimentation, and that is where the fun is. Hope none of my friends make wise cracks about which of the above snapshots is the "self portrait".

GEORGE PAUL BEAR

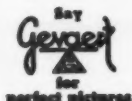
Bridgeton, N. J.





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## CONTEST ANNOUNCEMENT

For details of a new \$50 photograph contest see page 96.

## WATER PICTURE CONTEST ARGUS CONTEST

The above contests closed as scheduled and no more entries can be accepted. Photographs are being inspected, judged and reported on as rapidly as possible. The excellent response was so great that some of the later entries may not reach their owners for several weeks.

Winners will be announced in the next (October) issue of MINICAM.

How are contests judged?

MINICAM editors will try to answer this frequent question and put the experience gained in seeing thousands of contest prints into an article next month which will be titled "How to Enter—and Win—Picture Contests."

## MINICAM INDEXED

For ready reference to the store of practical data and information in MINICAM's Volume I, a complete alphabetical index covering twelve months, from September, 1937 to September, 1938, will be published in the October issue.



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# Candid Portraits

WITH A "BIG BOX"

By C. STANTON LOEBER  
PHOTOGRAPHS BY THE AUTHOR



When excellent work can be done  
with any old camera, imagine  
what can be created with the  
aid of a modern minicam!

CANDID photography has come to mean pictures of people in awkward and, all too often, embarrassing and unnatural positions. As a result, a certain amount of odium has descended upon beautiful little minnie and her wickedly fast lenses.

And since one of the dictionary meanings of candid is "honesty," we are supposed to accept these pictures as honest. But they are not. They represent only arrested motion in a particular phase of that person's personality—not the whole personality.

And since people are the most universally interesting objects in man's sphere of observation, they should be represented for what they are—not caricatured.

Some forty years ago, when minicam was only a dream, Arnold Genthe began his rise to fame by taking candid camera shots in the portrait studio of the California Camera Club.

They were candid because Genthe was artful enough to persuade his sitters he

was not quite ready and in that interval, got many natural and totally un-camera-conscious shots.

Later in his career Anna Pavlova was to throw her arm around him and cry, "This is not a photograph, it is a miracle." And Isadora Duncan, looking through tears at a photograph, to say, "It is my very soul, indeed."

That was more than mere shutter clicking. It was the photographer's understanding, his intense liking for people, that made those pictures—plus the knowledge that a staring lens when watched by the sitter, destroys all naturalness.

Of course, we can not all be Genthes. Nor can we all know the Pavlovas, the Paderewskis, and Isadora Duncans of our time. But in every city, every town and hamlet, are people. And some of them are unusually interesting from the photographic viewpoint.

In my own San Francisco are miles of docks and colorful characters. There is Chinatown with dozens of interest-excit-

ing old Chinese scuffling up dark little alleys or lolling in the tiny square where Robert Louis Stevenson loved to dream.

The average older Chinese shuns the camera as an evil devil.

So I have to evolve my own technique, new—at least to me—and simple. The camera I used was no tiny, easily hidden thing, nor was the lens a brilliant, ultra fast beauty. Instead, it was a bulky, ancient and nameless box, picked up in a junk shop for fifteen dollars.

The lens was a 6-inch, f6.3 in an Optimo shutter whose speeds were as unpredictable as a day in April! Long tubing and a bulb dangled from it.

This gave me my inspiration.

Setting my lens at four feet, the diaphragm at f11 and the shutter speed at the one spot where it was most likely to operate, I tucked the whole contraption under my arm and began a leisurely sauntering

along the waterfront.

Always I kept a hand in my trouser pocket and in that hand the bulb of the shutter.

At first they were all failures—out of focus shots, heads chopped off, poor lighting. But with practice I overcame these to some extent. I learned to judge distances better, to watch more keenly for desired expressions, how to jockey my victims into position for the best lighting and how to aim my camera.

For though the camera was always tucked under my arm like a shamefully carried package from the corner grocer, the lens was forever pointing at my subject and my hand ever ready to squeeze the bulb.

That is all there is to it. Pick out an interesting character and then get into conversation with him.

Usually there are questions. Is it a

● Areas like the San Francisco waterfront provide excellent hunting grounds for candid portraiture. Bring camera as near to the subject as possible, three to six feet, to catch the detail of skin texture so necessary for the interpretation of age, character and "weather-beaten" personalities. JUAN





#### GRANNY

- When it is not possible to approach close enough for a big head, because of subject's shyness or the camera's limitations, cropping may be resorted to, and part of the negative enlarged.



movie camera? Are you a news photographer? And when it is explained you are just a nut photographing the ships, the docks and seagulls, the camera soon is forgotten.

The talk drifts to ships and men that sail them, of fishing and fish that don't

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● Noon light is impossible for portraiture, the overhead sun casting a bad shadow directly under the nose. Sometimes a subject is very co-operative and does not object to stretching himself on the sidewalk in order to get proper lighting. The sidewalk also serves to furnish a neutral background and will reflect enough light to illuminate the shadow side of the face.

bite, and a thousand other things. The victim talks and likes it. You listen and like it—and get pictures, if you are lucky.

There are certain definite things to watch—specifically the background and lighting. Unobstructed sky always provides an excellent background. A clutter of ships, masts and docks makes a hodgepodge of disturbing blurs. A filter can be used to darken the sky, thus keeping the pronounced highlights confined to the features and centering attention there.

Now—the lighting. That is the most important item. For it is the lighting and its cast shadows that make the picture.

Early morning and late afternoon are best—as in most outdoor photography. The sun is low and weaker, especially in the winter months. Often your character can stand the sunlight full in his eyes. And well lighted eyes will often greatly improve the picture. I, nevertheless, often like to break the rule and picture eyes in shadow.

Look closely at the skin of a person in the sunlight and you will see it shining where the light is reflected, just as the dying sun is reflected from the windows of an office building. Being held under the arm, the camera and its lens can be placed in this angle of reflection and catch the light bouncing from the skin.

The effect is to emphasize each tiny

wrinkle, to center attention on that part of the features from which the light reflects. If reflected from the regions about the eyes, interest is centered on the most attractive part of your character's face. A person's eyes always hold attention.

As a rule, the shadow under the nose should be slanting—not straight down. One side of the face should be fully lighted, the other partially in shadow, but with the cheek lighted. Shoulders should be observed for leading lines.

Because of the strong and contrasty lighting—heavy shadows and brilliant highlights—full exposure should be given for the shadows. Usually I use 1/25th at f/11 and f/16 on Panatomic and Superpanachrome respectively. The small stop gives great depth of field and helps overcome faulty judgment in guessing distances.

The development should be for the highlights, perhaps one third to one-half less than normal. This prevents blocking up and saves detail in both shadow and highlight.

All the good books will tell you to back way off before attempting a portrait—that a shot at four feet or so will introduce distortion of gargantuan proportion. Well, don't believe everything you read—not even this article. Find out for yourself.

Most of the character shots I have made have been from four feet or less, and, though they have had plenty of criticism, distortion was not included.

Rather it gives a roundness to the head. The nose is a nose and sticks out where



● C. Stanton Loeber and his "big box." He prefers aged subjects. Young ones, he says, do not reveal their character to the camera.





- When using the "under arm" camera technique, the cable release is held in a coat pocket and the camera sighted by guess or by means of a reflecting viewfinder. Reflex type minicams, with their large ground glass viewing screens are excellent for this type of candid work. For most of the portraits shown here exposure was  $f/11$  at  $1/25$ th second.

it belongs. The eyes are back where they should be. Anyway, I like it. It does what I want. The features stand out from the paper. It pictures a character.

But don't try it on your mother-in-law. She will never appreciate being a character.

I have been criticized for shooting the old and all too rarely the young. But it is the old who are picturesque. On their faces are written life histories. The faces of the young are often—well, blank.

By working close, detail is observed that otherwise would be lost. For the lens can

see no farther than the eye, perhaps not as far. From across the street you will never know whether eyes are blue or brown. Up close, there is no question. So it is with a lens.

Not all shots are made while in conversation. Sometimes the prey must be stalked, as with Li Lin.

An elderly Chinese gentleman, Li Lin's business was selling peanuts and candy bars from a great basket he carried around San Francisco's famed Fisherman's Wharf. Thousands of tourists had pointed cameras at him and he was as camera shy as Public Enemy No. 1. So when I started after him, I had a job.

During a period of three months, I spent a couple of hours every Sunday and holiday following him. I gorged myself on his peanuts and his candy. I dogged his footsteps. I offered him money—both the jingling and folding kind.

In all that time, but one shot was made. And it was not good.

Then I got him. On the fateful morning, I took up his trail and never lagged more than ten or fifteen feet behind. Up and down the piers we trudged. When Li Lin stopped, I stopped. We watched the ships go out to sea, stared at Alcatraz, Al Capone's castle in the Bay, sniffed the acridly pungent smell of Copra nuts in the warehouses.

Exhausted, finally, from two hours of carrying his heavy basket, Li Lin sank down on an old piling. I dropped beside

him, camera draped across my knees ready for the shot.

And Li Lin turned his back upon me, stared stolidly into space. I munched peanuts and waited for him to turn. The peanuts disappeared and still I waited.

The poor old man was too tired to flee any further, but likewise, he was just as determined to give me no opportunity for a photograph.

For three quarters of an hour we sat there, I hoping he would turn and he hoping I would leave. Finally, beaten, I was thinking of leaving, when suddenly two cars came together on the Embarcadero with a loud crash.

Forgetful of the camera, the old Chinese jerked his head around to see and in that instant I got him.

Though he never heard of the Oval Table International Salon, The Los Angeles Camera Pictorialists nor the Philadelphia Art Alliance, Li Lin has invaded their sanctums and the sanctums of many other salons.

Sometimes I get into trouble stalking my prey.

There was the big, fine looking, old Chinese leaning on his cane before Chinatown's new board where, in the old days, bulletins were posted. With back to him and lens searching for him from under my arm, I gave no heed to a nearby urchin.

Suddenly there was a stream of shrill and voluble Chinese from the urchin. The old man whirled and before I knew it, was on me with his cane.

Another time—just because my lens was carelessly pointed their way—the crew of a Japanese fishing boat flashed knives and flung good, strong Japanese language at me.

The older Chinese have a fear that the camera steals a part of their souls. Sometimes I wonder.

For two years now, though I have searched the streets and alleys of all Chinatown for the old man, I have never seen him since the day he came at me with his cane.

Li Lin I saw but once after taking his



● A print from the negative before cropping for the result shown on the next page.



● LI LIN. Like most Chinese, he was extremely camera shy, fearing that the "magic box" would capture part of his soul. He was followed for two hours along the San Francisco Embarcadero until the crash of an automobile accident aroused his curiosity and caused him to relax his vigilance. The negative snapped in that instant resulted in a print which has hung in several international salons.

picture. He disappeared as completely as though he had never existed. I have enjoyed my candid shooting. It can be done with any camera. Any of the reflexes that hang from the neck on a strap will do.

In fact any camera permitting work as close as four feet can be used. All that is needed is a long cable release that can be concealed, a bit of ingenuity and a strong liking for people.

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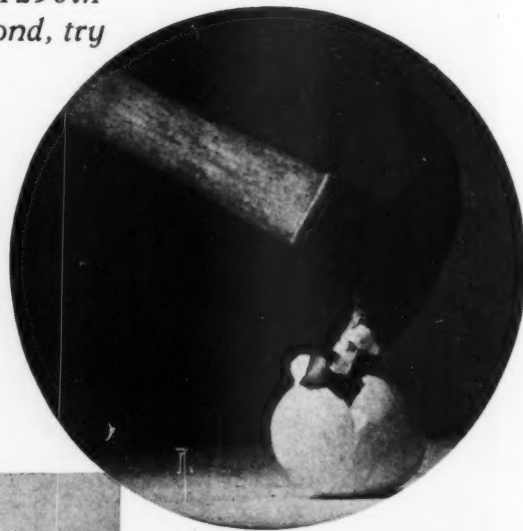
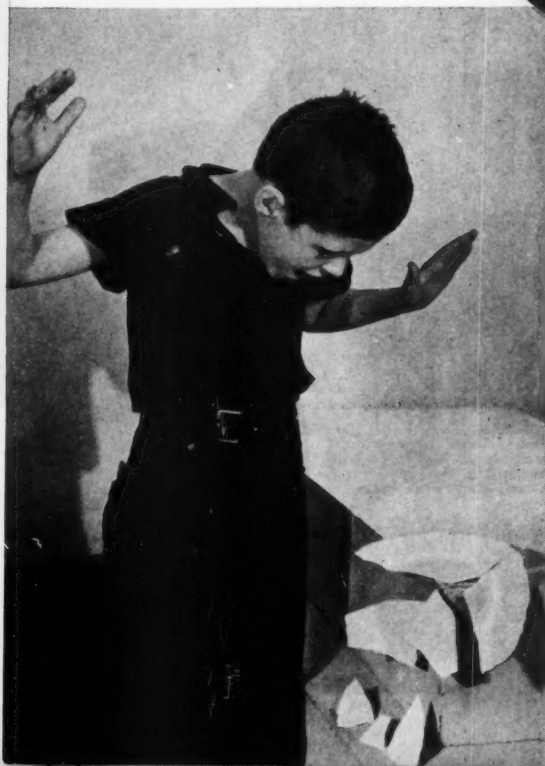
# *SPEED SHOTS--* **faked to order!**

*If you can't shoot at 1/1250th  
to 1/100,000th of a second, try  
"high speed" shots  
with any camera at  
1/25th to one second!*

By VICTOR H. WASSON

*Illustrated by Ralph Haburton*

- It slipped! Pieces of crockery caught in the air (below) falling off the corner of the table at 1/1000th of a second by synchro flash? Fig. 1.



- Instant of impact! Note the fine particles of egg shell and the flattening at bottom of the egg. Is this a laboratory experimental shot photographed by ultra-high-speed flash at 1/75,000th of a second? Fig. 2.

**N**O complicated bag of tricks is necessary in order to "pose" speed shots. Some window glass, glue, cellophane and black thread is easily gathered. No rabbit's foot need be included, although the assembled props may look like the contents of a witch's black bag, and the photographic results, too, may smack of legerdemain.

To get adequate exposure at 1/1000th of a second, brilliant sunlight or synchronized photo flash lighting ordinarily must be used. But if your camera does not have these high shutter speeds, or if you do not have a synchronizer and flash bulbs, you can fake "high speed" shots at 1/25th second or slower.



For Fig. 2, an egg shell was placed on a table, part of the shell removed, and the hammer held at suitable position to give the appearance of being brought down with force on the shell. The effect of the flying pieces of shell was obtained in printing by placing parts of torn paper on the desired parts of the image before the en-



largement was exposed.

For Fig. 3, the balls were pasted on a sheet of glass. Another way would be to suspend them with black thread. Many variations are possible with the use of a window pane or black thread.

(Page 80, please)



● The juggler! To stop the action of the three balls in the air with perfect definition, was synchronized flash used at  $1/1000$ th of a second Fig. 3.

● Conjuring with cards or with cameras is easy when you know the secret. This, and the other photographs on this page, all were taken at shutter speeds  $1/50$ th of a second or slower. Fig. 4.

● A stream of water (below) caught in mid air half way between a bottle and glass, shot at  $1/1250$ th of a second? Fig. 5.





# Sunlight CONTROL

*What is the secret of chiaroscuro? To painters, it means light-and-shade, but to photographers this conception means forceful and dramatic pictorial effects.*

By WILLIAM BOTTS  
ILLUSTRATED BY ERNO VADAS

ALTHOUGH much has been said about artificial lighting for night shots, few photographers have been persuaded that sunlight can, and should be controlled, too.

A photograph, because light makes it possible, depends largely upon the use of light for its success. From the standpoint of artistry, as well as technical excellence, light is the major factor. It can be controlled and directed for purposes of composition and color as well as for the pro-

duction of technically satisfactory negatives.

Chiaroscuro, in photography, takes up where painting leaves off. Texture, design and modeling are the three products of effective sun lighting.

When a front light strikes a subject, the result is a bare rendering of outline, and the result is as void of significant detail as a silhouette. Move the light source—or wait until it moves itself to the side—and note how the texture of a wall suddenly

stands out; objects that were as angular as wooden blocks, suddenly take on form and roundness.

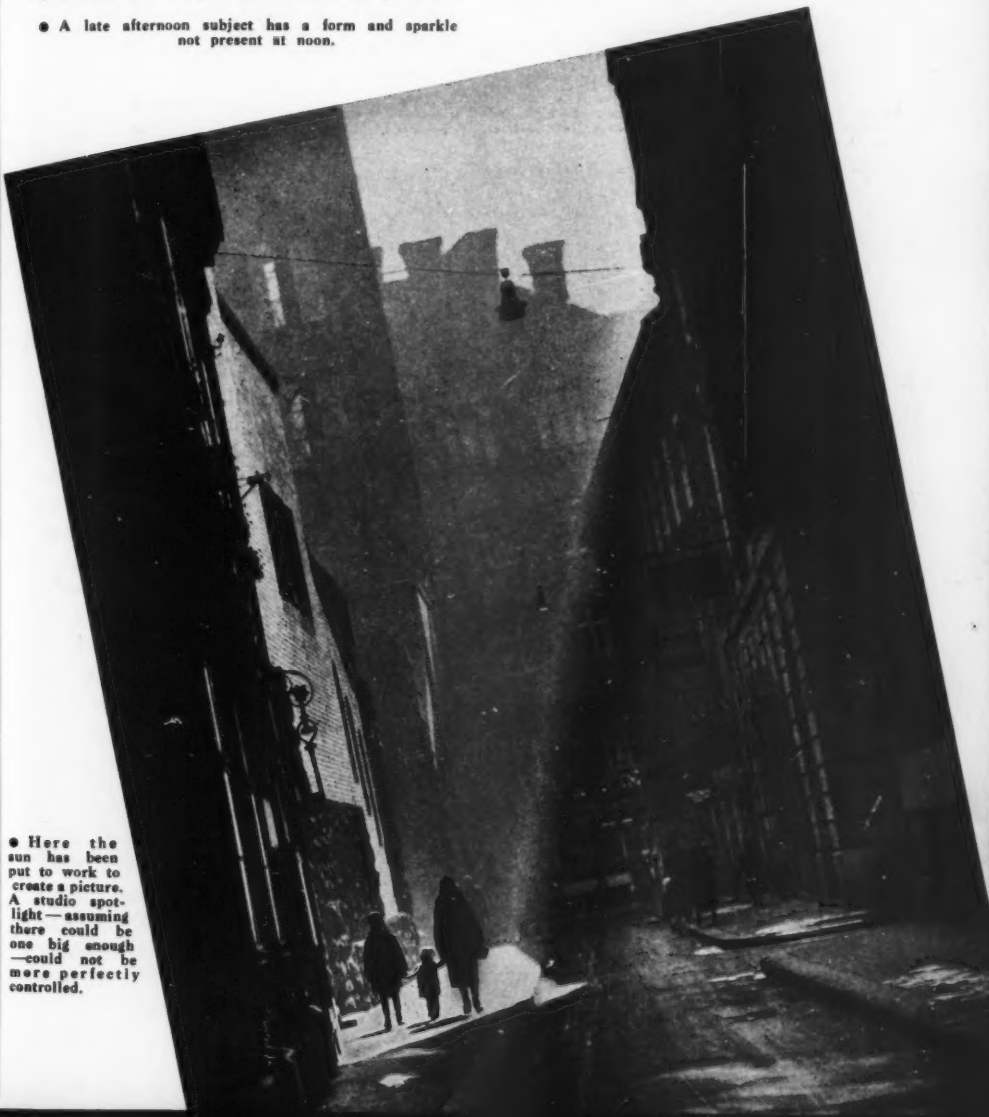
Shadows appear with the side-lighting and add a new element to the composition. The picture gains rhythmic diagonal lines and alternate areas of light and shade. What was a bald, uninteresting composition from any angle, now becomes interesting from almost every angle. Where it seemed impossible to arrange any kind of interesting composition, the addition of shadows brings a new element to conjure with and produces new picture possibilities. Light and shadow produce

modelling.

The photographic qualities of a given scene are determined by factors that are actually related to the light. Is the air clear, "rare"? Is it dusty, foggy, smoky? Is the light brilliant or dim, hard or soft? Is the subject sharply angular or seductively curved? Are the colors adapted to orthochromatic or to panchromatic emulsion? Does the light fall caressingly across a voluptuous shoulder, or does it grate harshly against jagged, dangerous rocks?

These are matters that concern the photographer, amateur or professional,

● A late afternoon subject has a form and sparkle not present at noon.



● Here the sun has been put to work to create a picture. A studio spotlight—assuming there could be one big enough—could not be more perfectly controlled.

who would make a good print. Light and shadow, or *chiaroscuro* as artists call it, is the most versatile of compositional elements, as well as a most important tool in the creative hand. For by it the artist in black and white expresses not only form, color and line, but also *mood*.

"But," asks the confused amateur, "can I control daylight? It's a simple matter to move a bridge lamp, but how can I change the sun around?"

The sun, my dear fellow, in one way, is simpler than the lamp—the sun moves itself around!

If you make your photograph outdoors

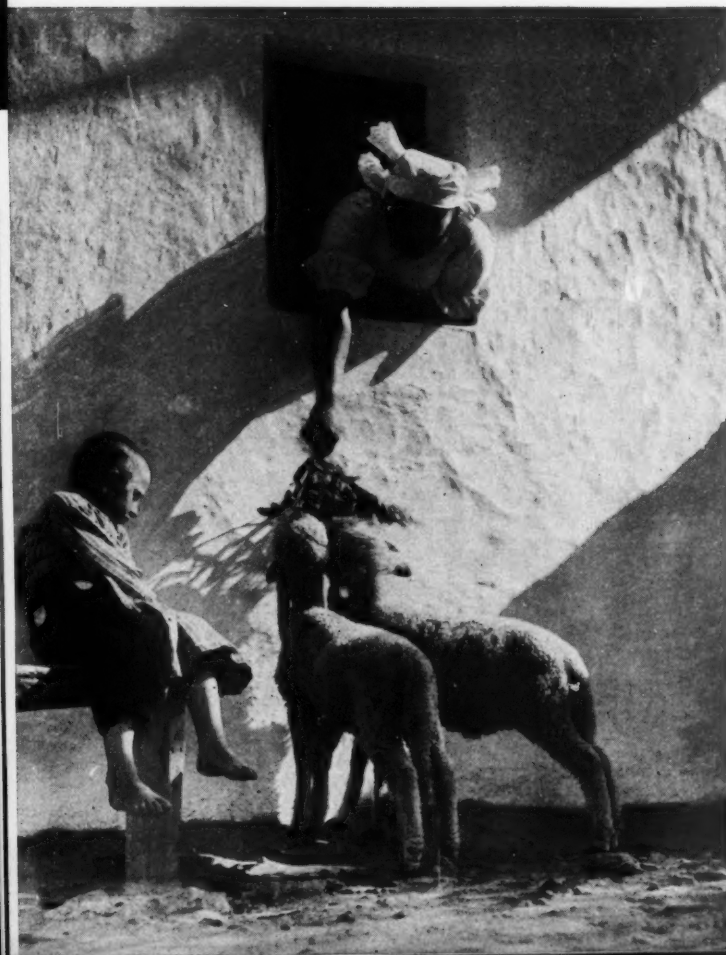
early in the morning or late in the afternoon you may sacrifice somewhat in the actinic volume of light, but modern emulsions easily take care of that. The consequent gain in contrasts and important structural elements in composition more than compensates for losses in speed of exposure. Of course, if you wish to take a picture at noon, when the sun is directly overhead, you can do so. You may make a good one, too. However, your subject must be selected with the top lighting in mind particularly: it must in itself contain sufficient interest or dramatic force to be compelling without the aid of those

generous contrasts and long angular, delightfully "juicy" shadows that account for the basic excellence of many fine, salon prints.

The illustrations shown here present subjects in which form and texture is enhanced by admirably suited lighting. The right time of day, the right atmosphere, the right emulsion, all go toward making finer prints.

Try it yourself. Street scenes are always available. Look for any of the familiar subjects such as shown here and shoot at noon doing your level best to get an interesting angle and pleasing composition. Then try the same subject about nine o'clock in the morning or about four-thirty in the afternoon.

● The long, diagonal shadows of early morning and late afternoon every day create pictures out of commonplace subject material. Exposure 1/50th second at f5.6. SIESTA





● The sun can't be moved around like a bridge lamp, but in one way it is simpler than the lamp for it moves itself. Note the texture of the wall and the design created by the play of light on the shutters.

Controlled sunlight magnifies the picture possibilities of any subject.

**MORAL:** Be as careful about the use

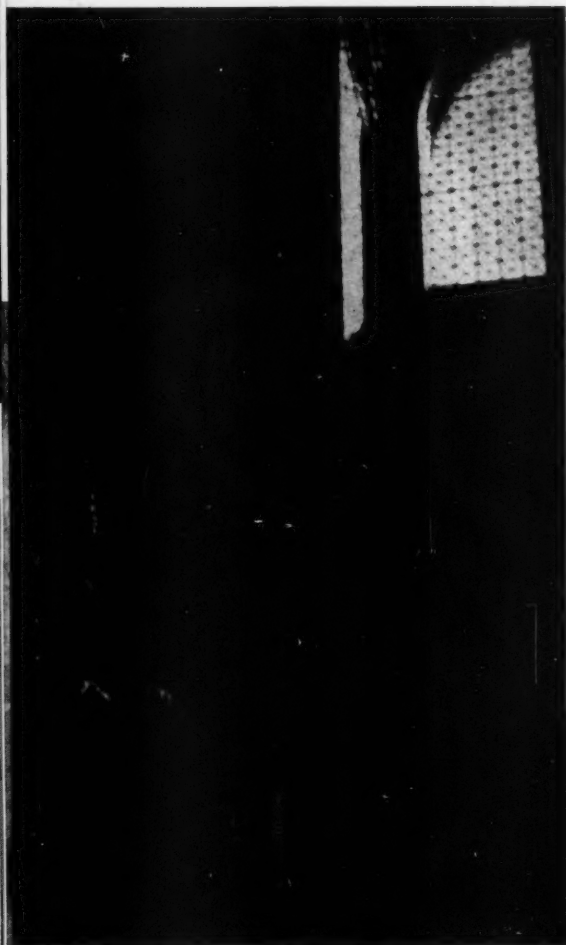
of sunlight by day as you are about the use of incandescents at night, if you really want to make better photographs.



# LOW KEY FOR ACCENT

*Also termed "heavy printing" and "overprinting," it presents a subject in predominantly dark tones for effect and emphasis.*

By REG. O. LISSAMAN



- Two prints from a single negative. The cathedral atmosphere was obtained by overprinting. The small print, a normal one, was exposed 18 seconds in the enlarger and the large one 180 seconds, or three minutes. Not every subject can be handled in this way, only negatives which have overexposed areas such as the bright whites along the man's profile and in the window. Photographs by Arthur L. Schoeni.

THOUGHT

AS a device for interpretation and control, low key technique has no peer. Contrary to popular belief, it is not necessary to have an underexposed or especially-prepared negative. A normal negative is used, although of suitable subject matter for this treatment. A test strip is made and the print's exposure for low key treatment determined in the same manner as exposure for a normal print. The exposure, however, will be five to ten times as long.

In a low key print, detail in certain areas is deliberately blocked up. The result is elimination of unnecessary detail and the concentration of maximum contrast in the center of interest.

This elimination of detail does not mean that the negative need be underexposed or lacking in detail. On the contrary, it is with a normal negative that best print quality is obtained in low key treatment. The only qualification is that the negative be fairly







#### DEPARTURE

- No film could hope to reproduce the range of tones in this subject and even if it could be done, the result would be ordinary. By means of low key treatment, the subject is interpreted in brilliant white, velvety black, and a few intermediate half tones, with no attempt to render detail in any of the areas, except as *apparent* detail.

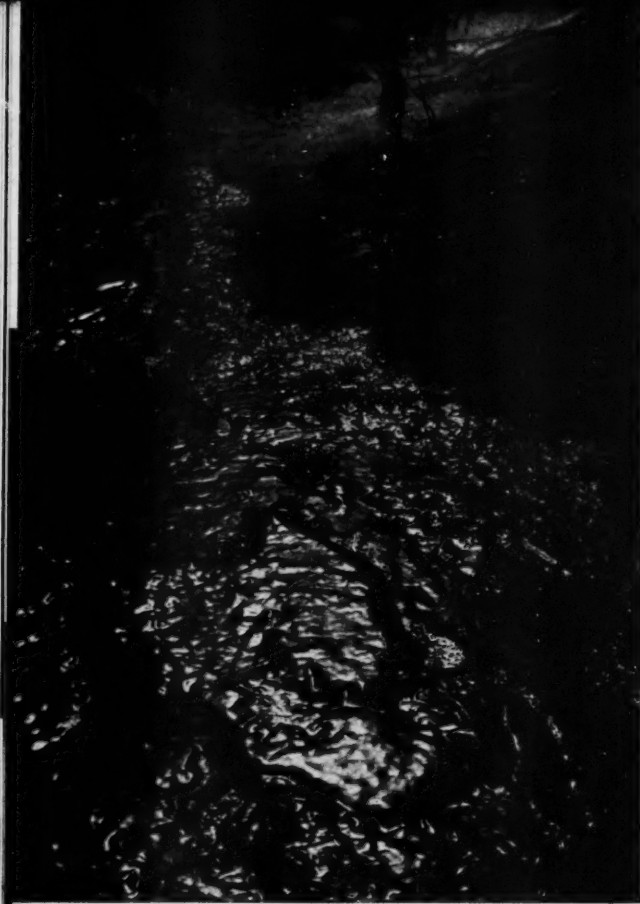
WILLIAM RITTASE

thin so that a reasonably short exposure can be given. Otherwise, many minutes, sometimes as long as 30 minutes or more may be required for a print's exposure.

When underexposing, in attempting low key results, we lose most, or all, shadow detail. Then when we slightly prolong the negative development (to keep our ultimate print highlights clean) we find that the half-tones lack sufficient density to properly support the highlights. With this set of circumstances, the negative can only

produce a print with no shadow detail, halftones lacking richness, and quite possibly bare highlights.

If, on the other hand, shadow detail is present in the negative, due to sufficient exposure, several vital improvements are at once apparent. The highlights, in the slightly prolonged development, have not so swiftly exceeded the half-tones in gaining contrast as with the underexposure. The result is that we now have half-tone detail of sufficient strength to enhance the



#### MOON MAGIC

- Moonlight effects are frequently obtained from sunset scenes by overprinting until the sky darkens and the sun looks like the moon. In the above print, the curious ice formation has gained richness and contrast, and become a river of molten lava—thanks to low-key technique. A normal print of the same negative is shown below.

value of the highlights, with what is even more important, a smooth, even blending from half-tone down into shadow. Thus, adequate exposure for a sunset type shot yields improved print quality. For ease in printing, the negative should be thin, but not underexposed.

Correct print exposure and development is important. Above all, full development must be given. Make a test strip, developing the full three minutes and time the print accordingly. Any print that is timed for a short development will be muddy in tone and lacking in rich, velvety blacks.

"Moon Magic" shows how much emphasis can be secured through low-key

printing. The small print shows the more or less normal results obtained from printing this curious little ice formation in normal key.

Since the photograph is limited in brilliance to its white paper base, the result falls far short of what might have been expected from the original subject. Nevertheless, the print still has possibilities. With low-key rendition, we achieve an apparent increase in brilliance by lowering the supporting tones; this lowering of supporting tone at once emphasizes the highlight area due to their rich contrast. The entire feeling of the picture has been changed. We have added an air of mystery which together with the title "Moon Magic" gives considerably more satisfaction than does the first print.

To say that detail is lost in a low-key print is not strictly true, for *apparent detail* remains. Consider a



typical low-key subject in which the center of interest is thrown up in high relief by the heavy tone surrounding. It would be highly unnatural to overprint these surroundings so as to obliterate all detail. If, however, there is present detail which fades gradually, *without abrupt* step into the shadows to eventual entire loss of detail, we still have, in fact have gained, apparent detail. The highlights, made more commanding by the dark, rich half-tones, fade gradually, without abrupt drop, causing the eye to overlook an absence of detail, and the mind takes it for granted that detail is there.

In making figure studies, the photographer's aim usually is to render form and skin texture. For special effects, it sometimes is desired to emphasize form only and subliminate detail, even at the expense of the flesh tones.

Low-key technique then is resorted to. The model is lighted to reveal her outlines. Merely to create a silhouette, however, is not enough, as, strictly speaking, a silhouette is not a low-key picture and certainly requires no special technique.

In the illustration above, note the use of contrasty lighting and a contrasty background. Two lights were used. The background light outlines the figure's left thigh and breast, but subordination of the face is obtained by placing the figure so that the head is seen against a dark part of the background.

The side light shows up areas on the neck, arm, thigh and legs, the photographer painting with broad strokes of light. Exposure was  $1/5$ th at  $f8$  to allow adequate exposure for the shadows. Normally printed, (15 seconds on Brovira Medium,) the negative yielded a print with detail throughout. When printed 2 minutes on Brovira Hard, the low-key effect was obtained in a print which left more to the imagination and resulted in a pictorially more effective photograph.

The routine employed in making a low-key print is the same as in a full-scale print. Just what low-key results a negative will yield cannot be seen until a test strip



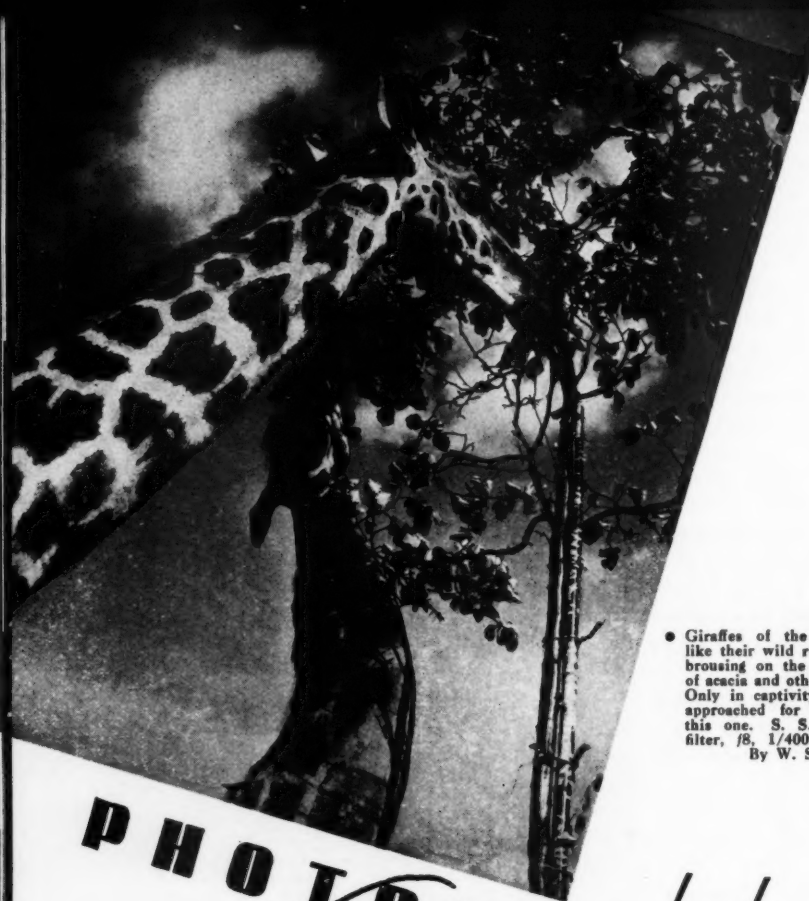
#### STUDY

BY JOHN McSHERRY

- Low-key technique in figure studies is resorted to when it is desired to subordinate flesh tones and emphasize form.

is made. If a negative yields a normal print in 10 seconds, make a test strip exposing portions of the negative 20, 40, 80 and 160 seconds. *Develop this test strip a full three minutes, fix and inspect in a bright light.* If the 40 second exposure appears to be the best one, make a second test strip exposing 30, 35, 45 and 50 seconds, and from this can be determined the exact exposure to allow the final print.

Only when a print awakes the imagination does it become a picture. Once this has been achieved the photograph gains, beyond its obvious characteristics and story, all of which the mind of the viewer can give it. It has created a mood, the intensity of which is limited solely by individual imagination, and this is the photographer's ultimate objective.



● Giraffes of the zoo variety, like their wild relatives, enjoy browsing on the tender shoots of acacia and other thorn trees. Only in captivity can they be approached for closeups like this one. S. S. Pan, yellow filter,  $f/8$ ,  $1/400$ th second.  
By W. SUSCHITZKY

# PHOTOGRAPHING

## WILD Giraffes

By DOROTHY W. DIXON

**G**IRAFFES are probably the easiest animals to find in East Africa, it being necessary only to drive a few miles from Nairobi, the capital of Kenya Colony. Shooting Giraffes with a camera in their native habitat is more fascinat-

ing than gunning for black-maned lion, rhino or elephant.

Wild giraffes are timid and will not allow a close approach, so a telephoto lens is used. They may venture near a road and even watch automobiles pass.

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But let a car stop, and the giraffes will shamle away at full speed with a gait like a rocking horse.

When curiosity overcomes timidity, and giraffes stand and stare, they nevertheless remain at a generous distance. Although giraffes may be seen every day, many trips may be necessary before success in getting close enough from a suitable point of view. Even then the animals are apt to make off before there is time to sight the view finder.

On one outing, having sighted a large herd of giraffes off in the distance, we left the road and traveled across the veldt, skirting thorn trees and brambles, meanwhile watching for unseen holes and the notorious thorns which are capable of puncturing a tire. The giraffes were un-



- Curiosity overcomes timidity. Shots like these taken on the East African veldt require a telephoto lens and considerable perseverance. Leica camera, 135 mm. lens, 1/100th at f/16.



- East African giraffes generally travel in herds but isolated ones sometimes are seen. They can be approached fairly closely in a car provided the vehicle doesn't stop.

aware of our presence. Moving slowly, we made as little noise as possible. Beyond a little knoll, we found two giraffes drinking at a waterhole. It was a wonderful opportunity. I raised my Leica with its telephoto lens. It already had been set for 1/100 at f/8, but before I could sight

(Page 78, please)







#### DANCING ON MOONBEAMS

Fig. 1

• A routine publicity shot that became a salon print. The "angle" that did it was obtained by turning the easel a few degrees until the desired composition was created. A performance picture taken from a balcony during the "Ice Follies." The only illumination was from the white and purple spotlights. Superpan film, f2.8, 1/100th second.

# ANGLE does it

*Lying on your back, climbing lampposts and other gymnastics are not the only ways to get new and winning angles.*

By RICHARD WURTS  
Photographs by the Author

WHEN a picture makes you stop, look and wonder, the answer nine times out of ten is "angle." A hundred photographers take one subject but only one of the prints may have the missing link which publications and salons call "eye-catching" power.

Photographers these days may be seen lying on their backs for worms' eye views and climbing lampposts for birds' eye angles, but gymnastics alone do not provide pictures.

To be effective, an angle shot must have not only "initial shock" which comes

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from an utterly different point of view, but also must be well composed pictorially in order to hold interest. It must not only attract attention, but also fulfill the second requirement of a good picture and hold this interest.

The importance of individuality in point of view is illustrated by Fig. 1. Yards of film and dozens of flash bulbs were expended by news men and others shooting this pair of dancers at the Ice Follies at Madison Square Garden, New York City.

Many of the results looked alike because they were made by men who were in the habit of making purely literal "record" shots for newspaper use. I wanted something different and, if I may say so, better. I wanted results that would show not any old pair of ice skaters, but this particular one.

I was working with the publicity director of the Garden and my job was to get unusual views for use in promotion work for programs, newspapers, etc. To myself, I added an additional aim, that of pictures of pictorial merit. The success of "Dancing on Moonbeams"

can be partially attested by its acceptance in the British Royal International, and Oval Table International and the Zeiss Annual Exhibition. All in one year, 1937, to say nothing of acceptance for reproduction in several publications, although it also was rejected by the P. P. A. and U. S. Camera.

For this shot, I used a Miroflex A,  $2\frac{1}{4} \times 3\frac{1}{4}$  camera with a 13.5 cm. lens. This size lens is usually intended for  $9 \times 12$  cm. cameras so on my  $2\frac{1}{4} \times 3\frac{1}{4}$ , it acted the part of a telephoto. The picture was taken from the edge of the top balcony. A smooth working tilting top was a great help in following the motion of the skaters. The only illumination was from the



Fig. 2

- The front end of a racing car and the rear of a candid camera fan taking a worm's eye view may offer an interesting parallel, especially when the latter has been sitting on the whitewashed pit wall. Super Ikonta B, Superpanachrome film,  $f/8$ ,  $1/50$ th second, cloudy day.

Fig. 3



ONE BORN EVERY MINUTE

- Made looking down from window ledge. Important details for the composition are the manhole cover and the man at the right and the hood of the moving car caught in the upper left corner. The policeman standing behind the "pitchman" adds an element of drama and suspense.

Fig. 4

back. The spot light rays come from both sides and help to center the interest by furnishing dark boundaries. The smallness of the figures furnished a sense of space and movement. They are free.

The camera was tilted slightly to enhance the angular movement and this angle was increased slightly by cropping in printing. The shadows help to give the desired unusual effect. There is a general feeling of ease and freedom in the figures and of happiness in the girl's smile.

The shutter speed of 1/100th second was adequate because of the camera's distance. Had the camera been closer a faster shutter speed and therefore faster lens would have been necessary and this type of picture would not have resulted.

theatre's white and purple spot lights. The Zeiss Bio Tessar lens was used wide open at  $f/2.8$ , 1/100th second.

The composition illustrates the use of diagonals to express motion. There are many acute angles in the lines of the lights and the figures but these diagonals are all brought into balance in the composition. The main point of interest is the girl facing the camera. Of subordinate interest is the man's

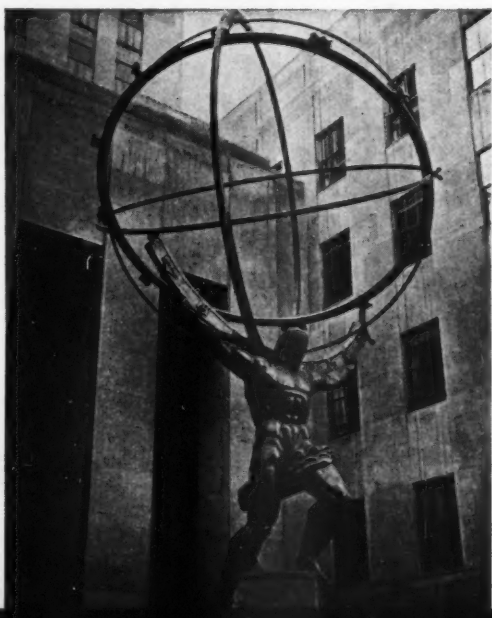


Fig. 5

ATLAS

- A test shot of "the most photographed statue in the world." Kodak Vollandu, Schneider Radionar f3.5 lens. Exposure f8, 1/50th, Superpan film. Note the awkward pose of the feet which appear to be falling off the pedestal and the lack of a center of interest.

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ATLAS

Fig. 6

● Made at a sharp angle from base of this much discussed statue to catch the face's purported resemblance to Mussolini. Angle served to get effect of dramatic sun lighting. By excluding the feet, the whole composition was simplified and attention brought to the face silhouetted against sky instead of being confused, as in Fig. 5, by background of building detail. The exposure was made while waiting for a rift in the clouds while lying on the ground a few feet from New York's busy Fifth Avenue.

Show producers are always in the market for photographs of their productions providing the prints are unusual and also of good quality for reproduction. Many producers, however, have become soured as a result of bad prints and therefore are not as anxious as they used to be to encourage photographers.

"One Born Every Minute" was made while working on a narrow ledge above downtown New York, at the corner of Broadway and Exchange Place. The street peddler, or "pitchman," was demonstrating how to silver plate metal, although he no doubt did not mention that the secret of his product was mercury and

that his "silver" plating process produced results which would wear off in a day or two. We were waiting for desired light conditions to make an architectural photograph of the building opposite when the pitchman set up his stand. About this time a policeman across the street saw us and evidently we were would-be suicides. "Don't jump," he seemed to say, and waved us back. Bringing our cameras into view had a soothing effect and brought a wide grin. With the aid of Indian sign language, we suggested he enter the picture below us. He obliged by quietly taking a position behind the street hawker. This added considerably to the interest and suspense of the view and we had only to check the camera's focus and wait a few seconds for the crowd to shift into a pleasing arrangement. The shutter speed of 1/50th of a second was not fast enough to stop the car which was seen coming. The blur of the car's motion, however, was just what was needed to furnish the compositional element to lead the eye into the picture from the corner and across to the lamppost at right, and down to the circle of people centering around the pitchman. The man at the right, in the street, and the man-hole covers help to retain the interest within the picture frame.

One of the most photographed statues in the world is a large bronze figure in front of the International Building, Rockefeller Center, at 50th and 5th Avenues, New York City. This figure is in the center of a forecourt between the two front wings of the building, and therefore direct sunlight touches it only for a short time each day. The angle of this light is determined not only by the time of day but also by the time of year.

The photographs of this subject shown were made purely for fun and were probably among the first shots of this now well-photographed subject. To understand the problems involved, visualize the statue rising nearly forty-five feet from the ground or to above the fourth floor of the background building. The pedestal

alone is eight feet high and the usual result as seen from the eye level, is shown in Fig. 5. In this test shot, the legs seem to be falling off the pedestal, the face is subordinated, there is no center of interest, and the most conspicuous part is the background of distracting windows and columns. For lighting, the most effective time of day is in the afternoon when the sun strikes the figure but not the globe on his shoulders.

A wide-angle lens was used to increase the relative proportion of the figure in comparison to the globe. Lying on the ground under the statue was an embarrassing procedure in view of the fact that the corner of 5th Avenue and 50th is one of the busiest in the world.

About a thousand people, that day, wanted to know what I was photographing, what for, what camera was I using, what film, what exposure and why didn't I try a certain angle that they saw? Since then I've seen many a camera fan shooting away at "Atlas", so I can't blame them for being curious.

Comparing Fig. 5 with Fig. 6, note that in the larger print the immediate background of windows and pillars, so distracting in the first print, have been subdued. The tower rising out of the left also was kept subdued in tone, but it gives airiness and height to the composition. Only enough of the windows and pillars are left to balance the background towers.

By cropping and excluding the feet, the whole composition becomes simplified and attention is directed toward the face, silhouetted against a cloudy sky. The curves of the globe bound the print and help to tie together the parts of the composition.

New angles abound in old subject matter. There is no greater thrill than taking a trite subject that has been photographed a thousand times and find that you have sufficient originality and feeling for composition to produce an entirely new picture, one that escaped all the previous cameras.

# DISTORTION

By WILLEM LYONS

*Far effective selection, presentation  
and emphasis—use controlled distortion.*

EVERY work of art is a distortion, but not every distortion is a work of art.

The job of a photograph—or painting, play or book—is to create an effect, to convey an impression and arouse an emotion.

In photography, we take a pictorial scene or human face, deprive it of color and third dimension, give it artificial perspective, condense it to 8 by 10 inches and slap it down on a piece of flat paper. The distortion which results is inherent in the medium. Added to it is the distortion in the photographer's mind, his personal point of view and interpretation. Involving as it does, selection, elimination and emphasis, the result may well be a work of art.

Photographic distortion may be introduced either in taking the negative or making the print. In the former case, the most common device is the use of curved mirrors, and unusual, weird and surrealistic effects are obtainable—if you have the necessary mirrors. Other re-



• HERE COMES THE BAND. Folding the paper into a "U" shape while enlarging makes a valley out of a level street. Fig. 1





flecting surfaces also may be used, such as water, stagnant or in movement, automobile hub caps and the convex side of polished teaspoons. Yet another device is the use of a convex lens in front of the regular camera lens.

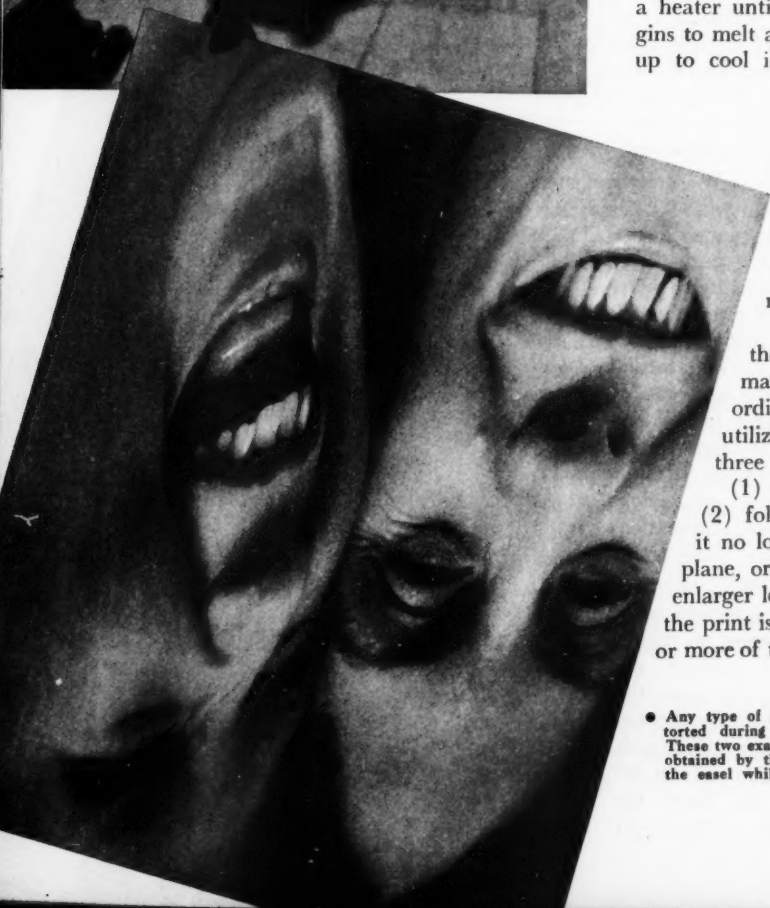
The greatest possibilities for control are allowed by distortion accomplished, not in the camera, but in the printing process.

Distortion may be obtained, for example, by heating a negative until the emulsion begins to melt and flow. For this purpose, a negative is made in the usual way, but fixed in plain hypo (not acid hardening). After drying, the negative is held over a heater until the emulsion begins to melt and then it is hung up to cool in a horizontal or

vertical position, depending on the direction of the distortion desired. After cooling, either contact or projection prints may be made.

Distortions like those illustrated here may be made from ordinary negatives by utilizing the following three devices:

- (1) Tilting the easel;
- (2) folding the paper so it no longer lies in a flat plane, or
- (3) focusing the enlarger lens so that part of the print is out of focus. One or more of these devices may



● Any type of photograph may be distorted during the enlarging process. These two examples of elongation were obtained by the simple act of tilting the easel while making the exposure. Figs. 2 and 3.



● THE MORNING AFTER. Compound distortion obtained by  
tilting the easel and folding the sensi-  
tized paper. Fig. 4.





be used at one time. Figs. 2 and 4 are examples of Simple Distortion, being accomplished by tilting the paper. The easel may be hinged or it may simply be supported by a book under one edge. The effect in Fig. 1 was obtained by curving the paper, being careful not to crease it.

The third device, focusing, is illustrated in Fig. 7, which is a compound distortion involving all three methods.

When the paper is not in a flat plane parallel to the plane of the negative in the

*(Page 77, please)*

• Tilting may be accomplished in either direction, for vertical elongation (top) or lateral elongation (bottom). Many affects can be obtained from a single ordinary negative and no special equipment is required. Black Star Photos. Figs. 5 and 6.



• WHEN GOOD FELLOWS GET  
TOGETHER. Compound distortion  
involving all three devices of  
distortion in printing. Fig. 7.



# VIEWPOINT

## *makes the "kid" shot*

*Written and Illustrated by*

ELIZABETH HIBBS

**M**OST of the waking hours of a child are spent "on the go." To photograph children, get them in action—but let your camera see them as they see each other. Take part in their play and, for their point of view, photograph from at or about ground level.

First of all, select a background in which the subjects will feel at home. If it's a park or woods, the camera also



● Children and water. Lake, beach, stream or bathtub—all kids love the water and reward the camera with natural expressions of joy. The dark background contrasts with the brightly-lighted subjects. Exposure f/9 at 1/100th, pan film.

Fig. 1



- Give them something to play with, even if only a cake of soap "that floats" (left). Fig. 2

- Here they are immersed in the task of sailing a couple of dime store boats. The author recommends film of the "panchromatic" variety for best rendering of flesh tones in bright sun. Being less contrasty, pan minimizes the harshness of summer sunlight (below). Fig. 3

will feel at home. There will be plenty of light and foliage, or water will provide backdrops of even, non-distracting tones.

Here's a gurgling stream and the children in their play suits. We haven't forgotten a couple of dime store sail boats. Their mother and I go wading, too, lifting the kids over the rocks until the background and direction of the sunlight are just right. The former furnishes a dark curtain to contrast with the brightly lighted children at play, as in Fig. 1. Note that the sun's direction is such that the children's faces are mostly in shadow.

As old Sol moves, so do we. While the boats were being sailed, we took advantage of the back-lighting for Fig. 3. When the novelty of the boats wore off, we produced a cake of soap "that floats" and Billy proceeded to eliminate some dirt from Susie's leg, Fig. 2. This procedure gave ten more minutes of interesting expressions.

In photographing children, stress action; the important thing is to catch that "fleet-ing moment" when subjects are unaware.



- Children on the go! Avoid front lighting to get those "unusual" shots. Note the back lighting which illuminates the hair and here furnishes a pleasing high-lit area on the boy's cheek. In sunlight, with panchromatic film, a shutter speed of 1/100th second will catch the action, and an iris opening of approximately f8 will allow adequate depth of focus. Fig. 4

- Children and pets make a perfect combination. It is worth noting that in all the illustrations shown here, the subjects are doing something and have something to play with.

Fig. 5.



- Ice cream in the sun means that exposures have to be planned in advance and shot within a few minutes, before it starts dripping on a boy's clothes and legs. Panatomic film, f/8 at 1/100th second.

Fig. 6.

Never mention the fact that you are taking pictures, or tell them to pose. Disarm them by talking about what they are doing. If they are interested in each other, say nothing.

A dog, or cat, or any pet, is a fine "prop." See Fig. 5. The interest in the animal gives the proper feeling and expression. To make a series of pictures tell a story, use the same background and models throughout.

For sharp focus, measure distances with a yardstick or lay a measured piece of string on the ground. The photographs shown here all were snapped with the camera 6 feet from the subject.







• The toy boat furnished an opportunity for a very interesting composition with the child's action represented by the diagonals of body, arms and leg.  $f/11$ ,  $1/100$ th second. Fig. 7.

#### DONT'S

1. Don't use distracting backgrounds.
2. Don't tell the children to "look at the birdie" or to "smile" or give them any reason to think you are deliberately asking them to pose for you.
3. Don't coax them to do anything they don't want to do. If Mary wants a fire-engine instead of a doll, give it to her.
4. Don't compel other children to play with yours if they do not play together naturally. For a picture, the result is always disastrous. It would be better to use a pet your child really likes, as in Fig. 5.
5. Don't try to photograph a child in hot weather if he does not feel like playing.
6. Don't lose patience.

#### DO'S

1. Select a suitable background of a tone to contrast with the subject. The background may be light toned as in Fig. 7, above, or dark as in Fig. 1.
2. Remember that your subject sees things from a point of view a foot or two above the ground. Use a low camera angle.
3. Use a rapid shutter speed whenever possible, about  $1/100$ th second.
4. Have the light come from the side or rear. In determining exposure, remember that lighting from this direction requires about twice the exposure required by frontal lighting. Use one of the panchromatic films.
5. Keep the kids doing something—bring along some appropriate toys; see that they enjoy themselves.
6. Participate in the play. Get 'em in action. Let them forget that pictures are being taken.
7. Use plenty of film. The best results are obtained when a number of exposures can be made quickly and at the right moment.



● A symphony of billowing white canvas, sparkling water and dramatic background sky photographed just after the start of a Bermuda Cup race. Exposure  $1/200$ th of a second,  $f/8$ , dark yellow filter. Compare this treatment of the white sails over dark water with the one below of dark sails over light water.

● Against the sun, water and sky make the boating picture. Note what appears to be a two-masted schooner, near the center of the print. To avoid this clumping, keep sails and hulls well-differentiated. Photograph sails so that they may readily be identified as parts of the boats to which they belong.



# *in the* WIND

By HENRY CLAY GIPSON

*Photographs by the Author*

LATE summer is open season for shooting sailing yachts. The small craft may be seen on ocean and inland waters drifting in a near calm or scudding before a freshening breeze, but always graceful as

birds on the wing. Framed with cloud effects, the moving subjects always offer exciting pictorial possibilities.

Outstanding success in making an action photograph requires equipping yourself with technical and artistic knowledge that you may be able to embrace good fortune when it comes your way, and snap the shutter at the correct instant. Not every shot will be a success, but if you are a good marksman your average should be high.


The first point to remember in making yachting photographs is to keep exposures short. The average exposure would be about  $\frac{1}{8}$  at  $\frac{1}{200}$ th of a second, using a dark yellow filter.

In reality you are photographing clouds, for the great white sail is to the camera's eye nothing more than a cloud tied to a mast. In addition, the clouds in the sky are more important in a yachting picture, perhaps, than the boats themselves. The photographer's treatment of the sky makes or breaks a yachting photograph.

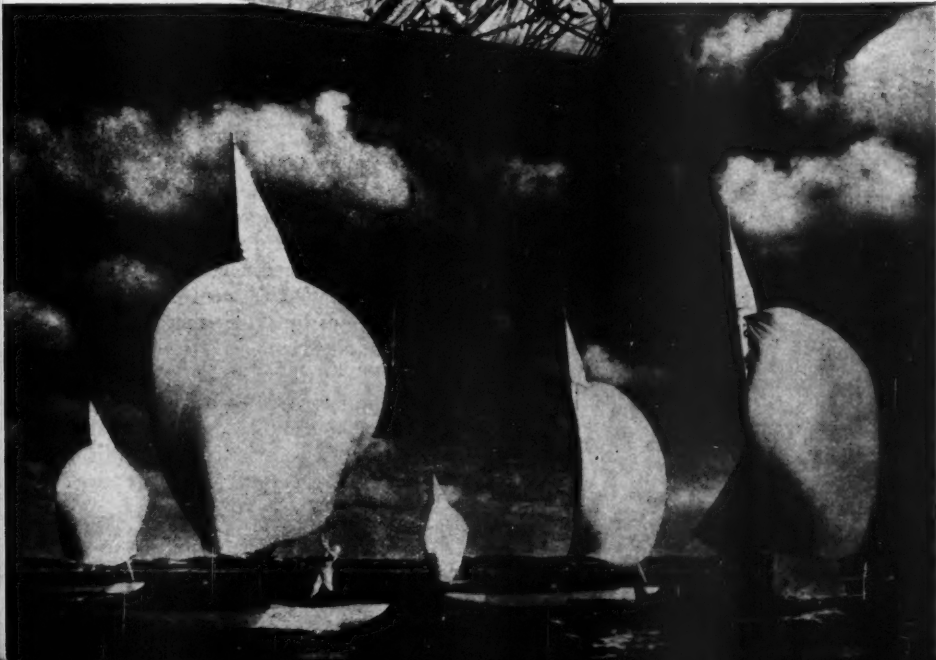
Filters therefore are of utmost importance. Keep a dark yellow filter in front of the lens at all times. If occasion arises for another filter, return as soon as pos-

● Departing glory. The full-rigged *Seven Seas* shot with a Bantam Special from directly under the bows. Exposure  $\frac{1}{250}$ th,  $\frac{1}{8}$ , light green filter.

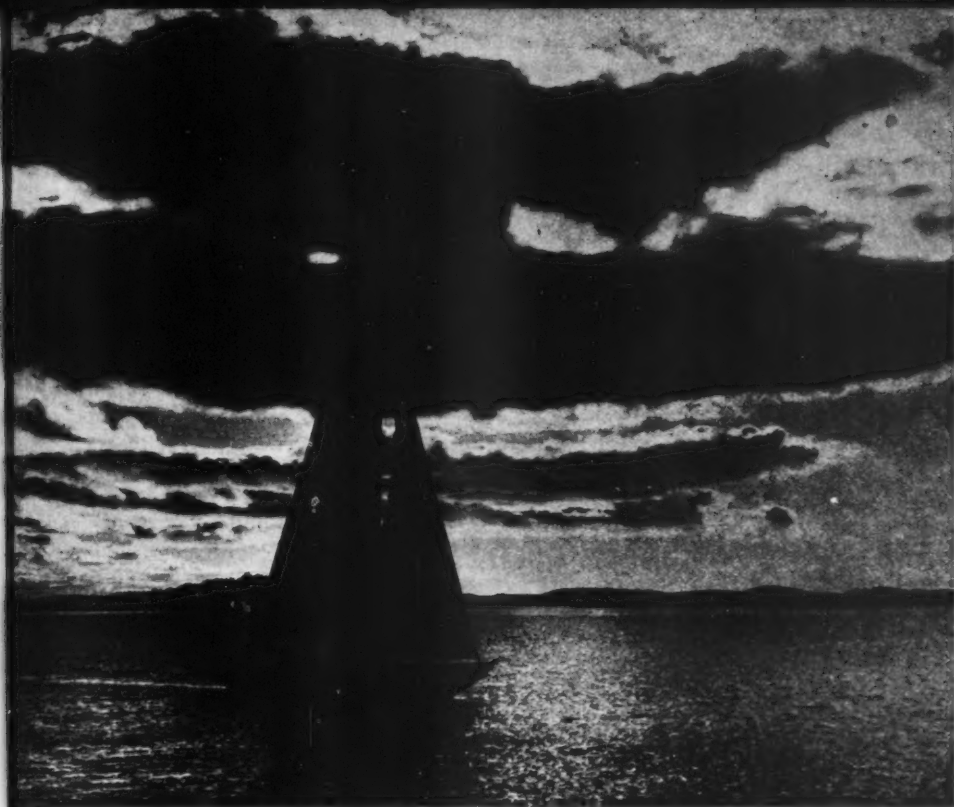




● Lensman aloft! The author shown perched on the end of the boom of the full-rigged Joseph Conrad during last year's windjammer race from Nantucket to Bermuda. He is without shoes and is using  $2\frac{1}{4} \times 3\frac{1}{4}$  Speed Graphic for closeups of the rigging.



● Parachute spinakers! Note that the action of the sailor is directly connected with the handling of the boat and therefore adds to the story-telling effectiveness of the composition. In photographing boats, there are really three subjects to contend with — the boats, the water and the sky; and each has to be rendered effectively.



● No filter need be used if the sky is dark. In the above, shot against the light into a setting sun, the late afternoon rays already provided perfect color correction. Being behind a cloud, the sun is safely out of the camera's field of view. Speed Graphic, 1/550th at f/5.6, no filter.

sible to the yellow. There are innumerable times when working with moving boats that a picture angle presents itself so quickly that there is no time even for adjusting lens stop, let alone shifting filters.

A dark yellow filter will give good clear color separation in the sky. In the print-making, the sky can be adjusted by dodging to practically any degree of light or shade.

For dramatic sky effects, use a red filter, remembering that it records water as black.

Reflections from great white sails form very pleasing patterns, and a yellow or red filter will heighten the contrast between the reflection and water. Reflections are most interesting on extremely calm days, when the water is almost glassy, and also play a very important part in making a picture even in rough water.

Many yachting photographs are confusing because each boat does not stand

out clearly. When hulls and sails become bunched, it is difficult to tell which sail belongs to which boat. Following the action of a race and the various distances of the boats from the eye, enables a spectator to clearly distinguish one boat from another. However, in a still picture where we lack a third dimension, sails, rigging and hulls become confused unless they are photographed at an instant when the boats stand apart from each other.

Watch the sails. With a good breeze in your face you may not notice that a yacht's sails are not completely full, showing wrinkles here and there. But the camera sees all. Also keep your eyes on the yachtsmen. They should be either quietly attentive to their work, or show some action which is directly connected with the handling of the boat.

Photographing a yacht race is as thrilling as participating in it.

It is possible to photograph a race from a shore point or from an observation boat,





● Photographing a yacht race may be more exciting than sailing one. Above all, get them at the turn.

but for best results, you should have a power boat which can make considerably better time than the windjammers. You can then place yourself in an advantageous position for the best pictures.

Never get to windward of the fleet and be careful that no swell created by your power boat reaches any of the racers. If you ever have occasion to photograph a yacht race from the air, it is well to know that the wind current from a low-flying plane may seriously handicap a sailboat. A plane flying close to the top of a mast will create a strong enough air current to take the wind out of the boat's canvas, if not to rip off a sail.

When making boat pictures, use as rapid a shutter speed as possible. Even on a comparatively calm day when working from a boat in motion, use at least  $1/200$ th of a second. On rough days, when your boat has a tendency to plunge or roll, use about  $1/500$ th. Even when using high shutter speeds, click the shutter when your boat is either at the top or the bottom of

its roll or plunge. When waves are high, you will work more or less by instinct to pick the point where there is the least movement of the boat. This point occurs either in the trough or on the crest of a wave.

The new small size Speed Graphic is ideal for marine photographs. The focal plane shutter furnishes high shutter speeds and the negative size,  $2\frac{1}{4} \times 3\frac{1}{4}$ , is large enough to allow enlargements of small sections of the negative. This is important when the speed at which you work makes it difficult to frame each picture exactly in the finder.

Avoid salt spray; nothing can ruin a camera quicker. Fine spray, which is sometimes hard to see, can easily form a mist over the lens. A good lens shade, which should always be used in marine work, will help to keep the lens dry. Lens tissue always should be carried along and the lens inspected before each exposure.

I have taken innumerable yachting pictures and, unlike many specialists in the



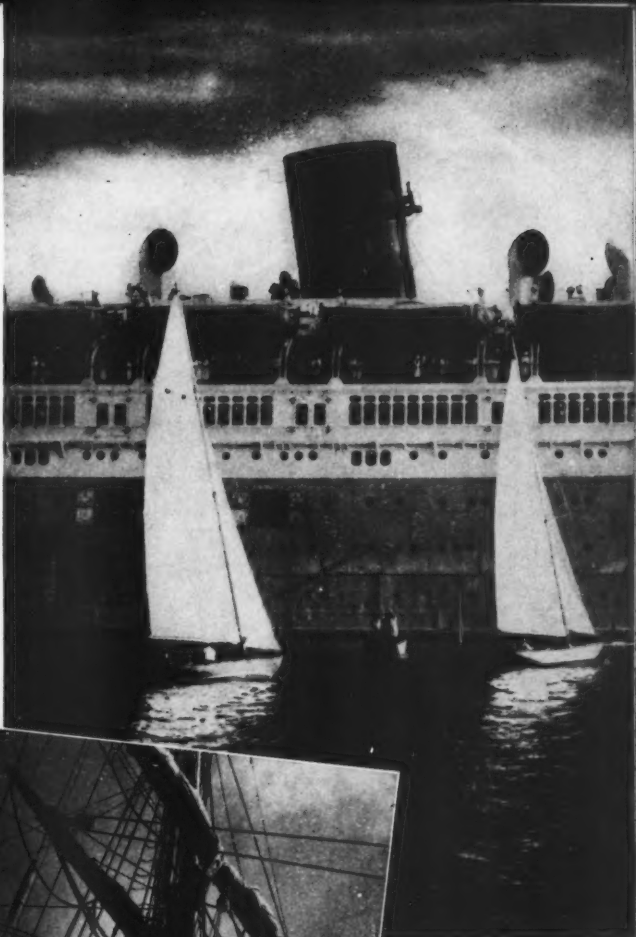
● The camera of Henry Clay Gipson has led to many out of the way places since he gave up a promising career to follow a hobby. A half dozen years ago, he left the job of assistant office manager with Stone & Webster Corp., an engineering concern, in order to satisfy a twin desire—to travel and to take pictures. Since then he has photographed the bottom of the Atlantic Ocean and the air route over the Andes, past Mount Aconcagua, the highest peak in the western hemisphere; he voyaged by muleback to the headwaters of the Amazon, and has conducted a commercial studio in New York City specializing in color photography. Already he has published two books of photographs, "Look at Latin America," and "Bermuda," and furnished the camera work for a mystery thriller, "The Castle Island Case."

He recently joined MINICAM as a contributing editor.



field, I usually use my oldest cameras for the work. Then when I lean over the side of the boat to get a choice shot, I don't have to worry about spoiling the camera. If a good heavy batch of spray breaks over it, I merely wipe off the lens and click again. The use of this battered old box has enabled me to procure many pictures which I would not have tried for if I had had to worry about injuring my equipment.

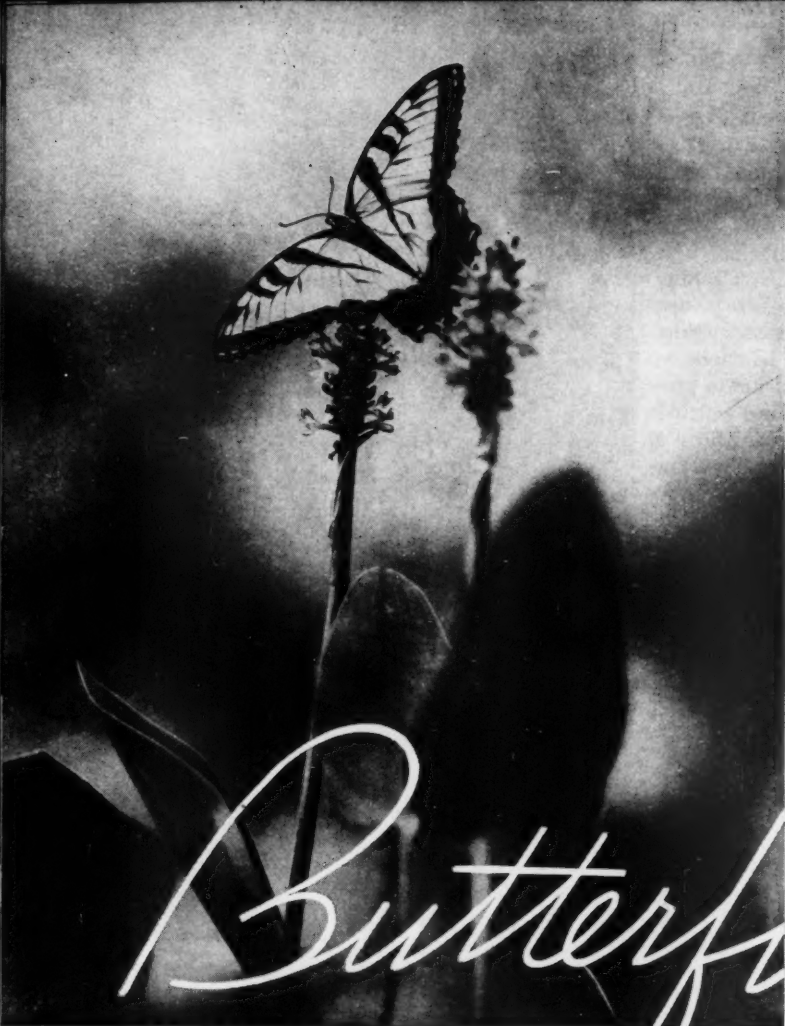
The world of sail is open to the modern photographer, and the field is broad enough even for specialists in yachting photography.



● Diagonal reflections help to make a picture, here relieving the heavy horizontal line of the steamship. Enlarged from a small part of a negative. Exposure 1/100th at f/8, dark yellow filter. The sky and water areas at top and bottom of the picture were darkened by dodging during projection.



● Closeups and semi-closeups should not be overlooked. Vary your distances from the subject. A sailor sliding down the rigging of the schooner Joseph Conrad at sea, shot at 1/100th, f/8, pan film, light green filter.



• Pictorial compositions as well as record shots of insect and flower life are obtainable during September in parks, fields and even in back yards. Photo by Sigfred A. Larson.

# Butterflies

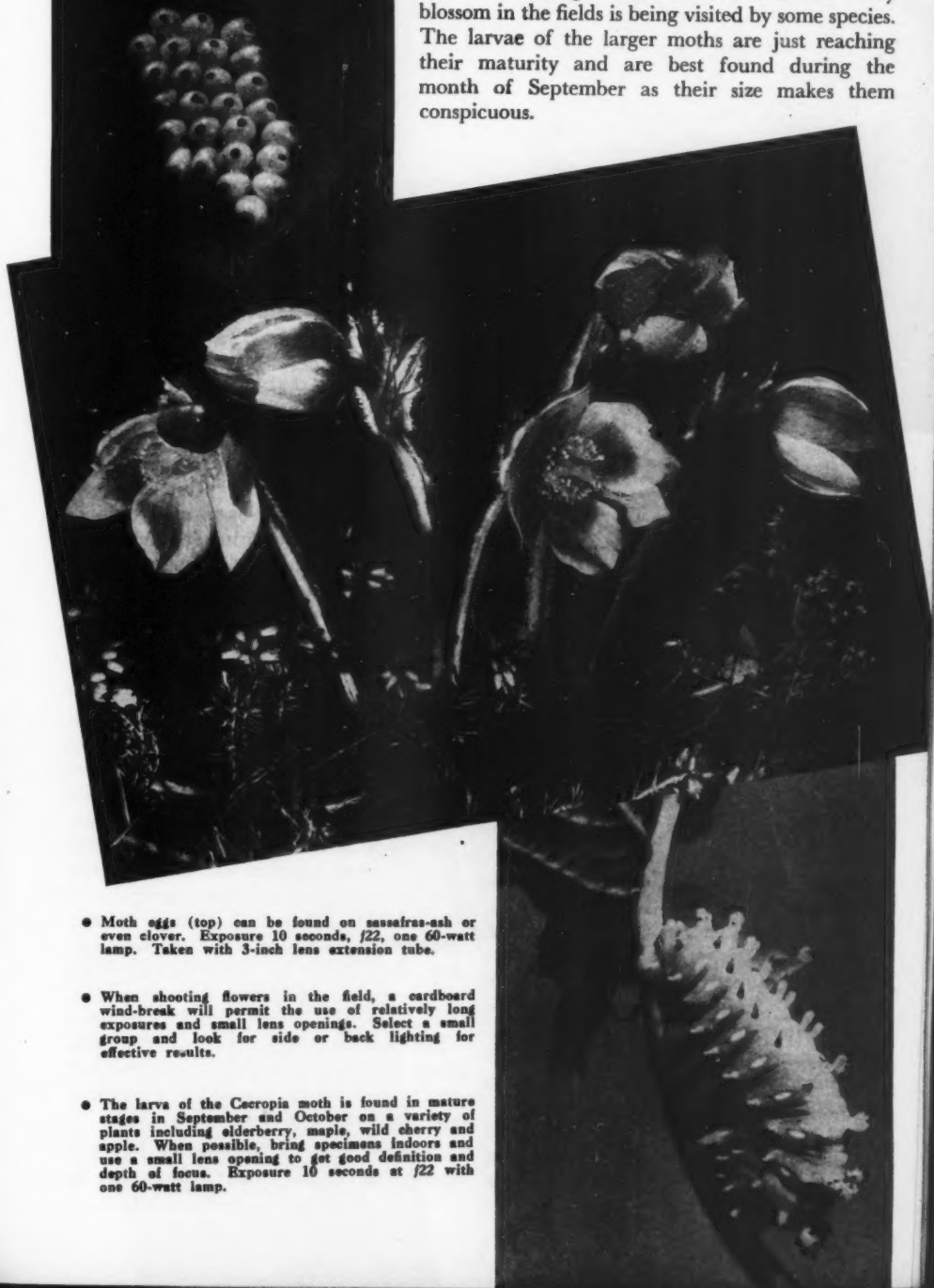
## ON THE WING

*Shoot them in the field and bring home specimens for filming a complete "life history".*

By ROGER E. RICHARD

PHOTOGRAPHING the complete life history of a living creature can be an interesting and instructive pastime even though the subject is one of the lower forms of animal life. The insects, particularly the Order of Lepidoptera, which are commonly known as butterflies and moths, lead one of the most fascinating and varied existences in the animal kingdom.

The month of September is about the best time of the year for securing material of this type. Those specimens that have reached maturity are on the wing in full force and almost every blossom in the fields is being visited by some species. The larvae of the larger moths are just reaching their maturity and are best found during the month of September as their size makes them conspicuous.



- Moth eggs (top) can be found on sassafras-ash or even clover. Exposure 10 seconds, f22, one 60-watt lamp. Taken with 3-inch lens extension tube.
- When shooting flowers in the field, a cardboard wind-break will permit the use of relatively long exposures and small lens openings. Select a small group and look for side or back lighting for effective results.
- The larva of the Cecropia moth is found in mature stages in September and October on a variety of plants including elderberry, maple, wild cherry and apple. When possible, bring specimens indoors and use a small lens opening to get good definition and depth of focus. Exposure 10 seconds at f22 with one 60-watt lamp.



● Viceroy butterfly chrysalids can be found on branches and twigs near willow groves in September and all through the winter. Note shed larval skin. Exposure 10 seconds, f22, 60-watt mazda, 3-inch extension tube.

Butterflies are on the wing from early morning until late evening during this month and every available blossom will disclose some species. The blossoms preferred are Goldenrod, Wild Aster and Wild Bergamont.

Specimens may be secured until the first frost denudes the trees and vines of their leaves. The larvae of butterflies, especially the painted beauty, and other members of the Vanessa family may be found in mature stages on Everlasting and Thistle.

Each adult female butterfly lays eggs, sometimes singly and again in clusters, from which hatch larvae or caterpillars. The caterpillars adopt curious enemy-frightening poses and numbers of them are clever architects who construct intricate shelters for themselves. The larvae, after eating quantities of vegetable matter and shedding their skins four or five times to accommodate their increase in size, attain the dormant or chrysalis stage. The larvae of moths spin silken cocoons about themselves or bury themselves in the

ground before changing to pupae; in this way they differ from butterflies.

The chrysalis of a butterfly is always naked. In this stage, Mother Nature transforms an ugly duckling into a thing of rare beauty, for after several weeks there emerges as colorful a creature as the eye would wish to behold.

The first requisite toward an interesting Insect Biography is live material. Animate specimens, no matter how common, are much more suitable than preserved ones. One or more field trips will be necessary although the shade trees and shrubs in your own yard will no doubt supply subjects for many evenings of camera entertainment. You may commence your biography at any season of the year as there is always material available.

The month of September is perhaps the most prolific month of the year for the securing of specimens. Eggs are generally deposited on the under side of the leaves and may be found singly or in clusters. The larva upon hatching from the egg usually eats the shell of the egg, quenches its thirst on a dew drop and sets itself to the task of making short work of the foliage upon which it rests. As the larva increases in size it seeks some means of protecting itself from the prying eyes of the birds.

A curled leaf of the Sassafras tree will, upon inspection, disclose the green-eyed ferocious looking larva of the Green Clouded Swallowtail butterfly (*papilio troilus*). A cluster of leaflets of the Locust tree which have the appearance of having been stitched together will bring to light the green and yellow-brown caterpillar of the Silver Spotted Skipper butterfly. Pearly Everlasting and Thistle plants harbor the larvae of several species of very common butterflies. The interesting larvae of the large night-flying moths (*Saturnidae*) reach their maturity the latter part of this month or the first half of October and are easy prey. Their large size makes them very conspicuous.

Sphinx moth larvae may be found in increasing numbers during September by

searching carefully the leaves of Wild Grape and Woodbine. The larvae of these larger moths are ideal subjects for the camera. The supply of material is almost limitless and a keen eye is all that is required. The most advantageous time of day to secure larvae is in the late afternoon or early evening, for at that time they come out of hiding to feed.

A collecting can to carry specimens back to your workshop is suggested; also secure additional food plant to feed them. The chrysalids of butterflies are hard to find as they assume the color of the object to which they are fastened. Butterflies are on the wing from early morning until late evening during this month and every available blossom will disclose some species. The blossoms preferred are Goldenrod, Wild Aster, Joe Pye

- The red-spotted purple butterfly (below) may be found visiting many of the fall wild flowers. One outdoor technique calls for focusing the camera on a likely blossom and waiting until an insect alights within the camera field.



- Cecropia moth (above) makes an excellent subject for a life-history series of photographs. It can be found at night flying around street lights.



- The red-spotted purple butterfly (left) is another subject readily available for life-history studies. This is the larva. It prefers the willow as a food plant, and can be found during the day. Exposure 1/25th at f4.5.

Weed and Wild Bergamont. The cocoons of the moths, which are fastened to trees by strands of silk, are easy prey after the leaves have fallen and may be taken home for future use. The warmth of the indoors during the winter months will hasten their maturity and the adult will hatch in mid-winter. The early hatchers may

(Page 79, please)



# September PICTORIAL ANALYSIS

Conducted by

J. GHISLAIN LOOTENS, F. R. P. S.

THE greatest pictures are fundamentally simple. Pictures—paintings or photographs—which are difficult to understand or laboriously put together, come closer to approximating the status of a puzzle than the lucid statement of an idea. By their confusion of design or deliberate groping to be different at any cost, they mirror the uncertainty of the mind which conceived them.

The greatest workers of recent times, while, of course, fully aware of the attempts to break away from so-called tradition, are too well versed in their art to be tempted to embark on uncharted seas. They know that to ignore what has been

accomplished through centuries of trial and error is to court artistic disaster. The accumulated guidance and wisdom of all these years cannot lightly be discarded. Experience has shown that a picture, which seems good or pleasing, invariably possesses some of the elements found in earlier masterpieces. Conversant with the principles which rule standard art, they have enough vision and inventiveness to say something interesting and new within the flexible bounds of fundamental forms.

One of these fundamental forms is a curved line—the use of which is generally accepted as the best method to make a picture pleasing and graceful. A couple of centuries ago, the English artist, Hogarth, wrote an essay in which he contended that the most perfect line was one which resembled that of a woman's back. Compositions following this pattern are, therefore, said to be based on Hogarth's "Line of Beauty"—a curved line of graceful proportions. In landscape photography this may take the form of a rambling brook, winding path or the high-key curve of a distant shore line. The picture under consideration this month definitely follows this beautiful form.

"The Ice Serpent" is one of the well-known creations of Adolf Fassbender, F. R. P. S., whom I consider the greatest teacher of pictorial photography in this country today. A master of composition and unrivalled in the technique of photography, Adolf Fassbender's pictures are examples of photography at its best. After a lifetime devoted to photography,



• The numbers on this sketch refer to parts of the composition on the next page.





# THE ICE SERPENT

BY ADOLF FASSBENDER, F. R. P. S.

- All the principles of composition will not create a work of art in themselves; they are merely the framework for an idea. Here is the idea behind this print as expressed by the artist himself:

"This striking and fantastic semblance, etched in the ice by the slanting beams of the late afternoon sun, lasted but a few minutes . . . just long enough for me to recover from the excitement of my discovery and intense admiration of its dramatic beauty to take the picture. How my imagination responded! I visioned the icy spectacle as the glittering trail left by a monstrous sea serpent that had just slithered away from behind the great rock in the foreground to plunge into the depths of the sparkling water beyond, leaving behind the glitter of a thousand shining scales on the frosted surface. And to think . . . this all happened on a lake in Central Park, New York City!"

both here and abroad, always in touch with changing fashions and ideas, he is firmly convinced that the sane, middle path is still the correct one, as he so ably sets forth in his monumental book, "Pictorial Artistry."

A man inherently possessed of a poetic nature will show this gift in his work. It is, therefore, not surprising to find many of this artist's pictures based on the S-curve—as it is sometimes called—because of all the forms available there is none which surpass it in the qualities which appeal to the sensitive mind.

"The Ice Serpent" is a fine illustration of the S-curve at its best. Using it in a strictly simple form can give a feeling of too much softness and lack of vitality. Such danger is avoided here by the introduction of the heavy mass of rugged rock in the foreground. This ingenious combination of curved and straight lines results in a composition of lyrical tendencies invigorated and strengthened by rectangular shapes.

Direction of line is masterfully handled. Although the foreground appears to be totally separated from the rest of the picture, it is actually in close relationship. While the sweep of the S-curve is obvious enough, there is a subtle touch in the handling of the rocks. "Line" does not merely mean something which resembles the shape or definiteness of a piece of string or rope. It also includes selecting a viewpoint which makes use of tones or masses in "directing" our gaze. Objects in a picture can be so placed that they seem to "point" in a certain direction. The rock and foreground are the objects here which act as "lines" in directing our eyes to the more evident line of the "serpent's" trail. In fact, the line direction of the rock is so manifest that its base (No. 3 in the sketch) can be considered as a continuation of the S-curve (No. 6).

Fassbender has also made use of another old principle in composition: Radiation. Radiation is used to emphasize the most important part of a picture (the center of interest). Wherever lines con-

verge or diverge, our eyes will follow them to their juncture, and that particular point, of necessity, will receive the most attention. The best example of this is the ordinary wagon wheel, where all the spokes meet at the hub. But Radiation, to be pictorially interesting, must have variation. The even spacing and size of the spokes of a wheel form some sort of pattern, but it lacks pictorial appeal in the accepted sense. Radiation, to be effective, should be composed of both curved and straight lines which bound areas varying in size and tone.

In "The Ice Serpent" we have all these factors. Starting at the "hub" (No. 1), our center of interest, we have to our right the solid mass of rock which gives us two lines or spokes (Nos. 2 and 3). The shadow cast by the rock itself gives us another line (No. 4). Continuing clockwise, we reach the strong line (No. 5), denoting the separation of shore and lake. Each of these vigorous lines or spokes denotes the beginning of an area different in shape or tone from the adjoining surface. And, finally, we have spoke No. 6, a graceful counterbalance for the vigorous foreground.

If you will cover the upper part of the picture to the top of the rock, you will note the ruggedness, almost harshness, of the lower radial design. The strongest contrasts between black and white also appear here (No. 1),—the upper portion of white (No. 7), being of secondary strength because it is surrounded by only a medium tone and is far removed from the "hub" of importance. It will become evident that Adolf Fassbender, desirous of utilizing the gracefulness of the "line of beauty," at the same time did not want it to become too important; he was eminently successful in preventing the "tail from wagging the dog." The picture is a testimonial of his ability to portray a lyrical note backed by a masculine vigor.

There is an excellent rendition of linear perspective in placing the S-curve in a vertical position. The size and dominating position of the foreground as con-

trasted with the curve in the upper portion further emphasizes the illusion of third dimension. Rhythm is abundantly evident not only in the interesting changes of pattern throughout the picture, but noticeably in the repetition of various lines within the swing of the main curve.

The dramatic interest of the whole scheme is heightened by the clever use of tone. (By tone we mean the scale between light and dark and not the color of the picture. The actual color of the original print is blue.) The picture can be considered as cast in a low tone in the midst of which have been placed light areas. The low key makes for a feeling of drama and mystery, the desired brilliancy being obtained from the light tones. It demonstrates that composition is un-

questionably allied with flawless technique—it is practically impossible to secure the first without the latter.

And, what about the meaning of the picture—the reason for its existence? A man of Fassbender's imaginative powers and poetic conception would never be satisfied with a picture which was simply structurally good. To him, the design of a picture is only the means used to convey a mood or tell a story—the thought behind the picture. He would be the first to point out that the principles of composition will not create a work of art in themselves; they are merely the framework for an idea. For an expression of what the scene meant before it was photographed, re-read the artist's own words below the print.

# Being CRITICAL

*What's wrong with these snapshots and how to improve them.*

**P**ICTURES through archways and similar settings are a great temptation to the average photographer. The strong contrast of nearby silhouetted figures against a light background of sky or land is effective enough to secure attention from every camera eye. Silhouettes, as originally conceived before the advent of modern photography, constituted one of the elemental forms of making an outline, being devoid of detail, color or third dimension. However, in photography we usually desire some hint at detail and specifically want third dimension because we know that figures have depth in addition to length and width. For this reason, in pictorial photography the silhouette is not often successful. To meet approval, the dark outlines must be cleverly placed and correctly balanced, producing a decorative effect.

"Arcade" does not quite meet these conditions as the placing of the figures is too confused and the pattern as a whole lacks good

design. An improvement would have been noted if the picture had been taken a second or two later when the approaching figure of the man would have been nearer to the camera, in this way becoming larger in the lens and acquiring a dominating position. However,



• "Arcade"—1/100th at f/3.5, Dupont Superior film.



● "Johnny"—1/25th second at f/5.6, Super Pleschrome film.

buildings and automobiles), our mind allows for an automatic existence of distance between visible objects.

ONE of the sensible rules in portraiture is to pose your subject in a flat plane. This makes for ease of focusing and usually better posing of the figure.

Arranging your subject such as has been done with "Johnny," means that you have to be in focus from the tip of the shoes to the back of the head, a distance of easily four feet. If the model had been allowed to remain in the same position as shown here, but the photographer had moved around to the side so that the right shoulder be nearest the lens, a depth of about 12 inches would have been sufficient. This would allow a wider opening of the lens and a correspondingly shorter exposure. Perhaps more important than even the benefit of a shorter exposure, moving to the right side of the model and having him turn his head towards the lens, would have resulted in a happier pose. This would have avoided having the hands and feet pointing directly at the viewer; there is nothing very pretty about large extremities looming straight into the camera, out of proportion to the rest of the body.

For good drawing in a portrait, eight feet is the correct distance for the lens to be from the sitter. This rule applies regardless of the focal length of the lens used. This eight-foot distance applies to a study of head and shoulders only. But, if you are insistent about posing your model with hands and feet similar to the

even though the figures themselves are flat and lack depth, we have third dimension; this is obtained from the contrast of the very dark figures against the light street scene, plus the fact that assuming comparatively large proportions as compared with objects of a known larger size, (such as

picture under consideration, then a distance of about seventeen feet should be used. If you do not keep these distances in mind, you will get distortion and there is nothing you can do about it. In the picture of "Johnny" this distance for a full length figure was not kept in mind, and furthermore the camera was badly tilted, making the vertical lines appear diagonal. And yet, assuming this is a good likeness, by cropping the picture as shown we can have a fair portrait.

TECHNICALLY, "At Home," an indoor picture made with artificial light, shows intelligent handling for exposure and development of the negative. The print, too, is passable although more detail could have been retained by a little more careful dodging in the shadow portions. However, the choice of viewpoint leaves much to be desired.

For one thing, as now composed, there are too many pictures in one frame. There is no principal point strong enough to rule over the balance of the composition, unless, possibly, the figure of the lady. It was not the intention to make a record of all the furniture in the room, and yet that comes pretty close to being the case. Naturally, the two figures were the objective of the photographer but they seem lost in their surroundings and a bit isolated from one another. If this is a study of a happy family at home, why not keep them a bit closer together? Or perhaps one could be seated in the large chair while the other remained standing or leaned on the arm of the same chair.

To improve the present picture and give a better sense of harmony, it can be cropped as per larger frame. This allows the two figures to become dominant and eliminates the distracting areas of the large room. Or, we can be more severe in our trimming and decide to crop in such a manner that each of the figures is left in its own frame. This may prove to be the best procedure and the result would be two snapshots with each of them better than the original one.



● "At Home"—1/5th second at f/2.8, S. S. Pan film.

# BUILD IT Yourself

## A CAMERA CASE

By Glenn Gaufin

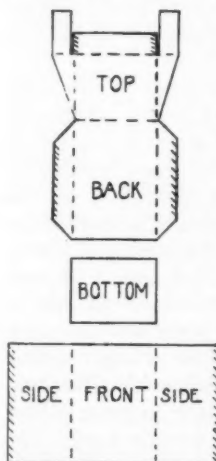
**T**O own a smart-looking and practical carrying case for camera and accessories is the wish of many amateur photographers. The foundation of such a case is a frame of fibre. This is covered and lined with flexible leather. The sketches show the shape of the fibre and leather cover. The laps are shown exaggerated. Only  $\frac{1}{4}$ " need be allowed for this purpose.

Sheet fibre  $\frac{1}{64}$ " thick is cut to the shape shown. The size of the camera and accessories determine the dimensions used. Allowance

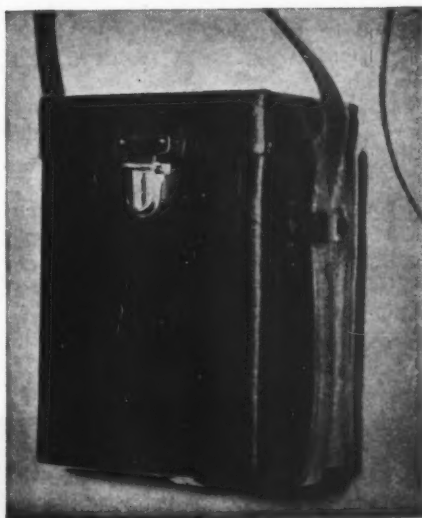
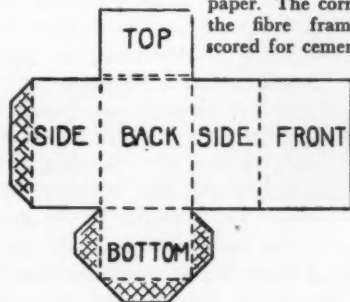
should be made for the lining thickness and partitions.

The surfaces to be cemented together are scored with the point of a knife in a criss-cross manner. The cement will then hold better. Fold on the dotted lines, bringing the laps inside. Apply duco cement and tie firmly together to dry.

The cover may be made of upholstery leather or any other flexible leather. The color is not important, as it can be dyed to a suitable shade. The edges marked are shaved down to a feather edge with a sharp knife and sandpaper. The corners of the fibre frame are scored for cement and



● Make two patterns—for the fibre frame (below) and for the leather cover (above).



● Here's how the finished product will look. Make it to suit your camera and accessory carrying needs.

the bottom cover applied first. The back is then applied overlapping the bottom. The front is applied the same way. The sides are drawn towards the back and the thin edges are smoothed down. If done with care these seams will be hardly noticeable. The top is now closed down and drawn to a snug fit. It is tied in place until the cement dries. Any sharp corners are then sandpapered and loose edges recemented.

The shoulder strap is 56" long and  $\frac{1}{4}$ " wide. Three  $1\frac{1}{2}$ " loops may be cut from this to fasten the strap to the case. The case and strap may now be dyed. Use the best leather dye, as the cost is very low.

The latch may now be fastened on, also the three small loops are riveted one on each side and one on the bottom. The strap is drawn through and the ends riveted together. The joint being left on the bottom.

The edges may be embossed with an embossing tool or a penny. A coat of wax gives the finishing touch and case is ready for years of service in keeping camera and accessories.



# COPYING

## with an enlarger

*Far from being mysterious or complicated, the process is simple, practical and requires no special accessories.*

By WILLIAM S. SPRING

HAVE you ever looked at your enlarger and wondered whether it could be used as a camera? It can, and an enlarger makes an excellent copying apparatus for reproducing photographs, drawings, documents and small objects.

It has all the elements of a good en-

larging camera for it has an easel (or baseboard), a lens, a means of securing accurate focus, a place to hold the film, and the necessary rigidity so essential in copying.

Copying with an enlarger is simplicity itself, for an ordinary, sharp negative is first focused on the baseboard or easel of the enlarger, forming an image slightly larger than the object to be copied. The manuscript or object to be copied is placed well within this area. The enlarger light is turned off and a piece of film is put into the negative holder of the enlarger so that it occupies the position formerly occupied by the negative which was focused on the easel. The lens is stopped down and the object to be copied is illuminated by auxiliary lights.

There are two problems and these are readily solved. First, the negative holder must be light-proofed. This is accomplished by placing a sheet of cardboard in back of the unexposed negative and, further, by covering with Scotch tape the opening into which the negative holder goes.

The next problem is the positioning of the unexposed film in precisely the same position as the



• An unexposed film is placed in the enlarger's negative holder and the openings light-proofed with adhesive or scotch tape. The enlarger then is used as a camera with the subject placed on the easel and illuminated by a couple of Mazda or flood lamps.

Fig. 1



## FOLLOW THESE STEPS

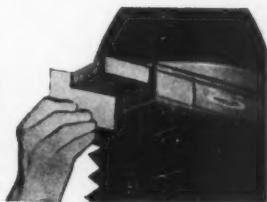
1. Adjust enlarger to desired size and focus.
2. Mark negative holder to indicate exact position of negative.
3. Mark easel to indicate exact position of the print to be copied.
4. Place subject in position and arrange lights.
5. Turn out all lights except a safelight suitable for the film which is to be used.
6. Place piece of unexposed film in negative holder. With adhesive or scotch tape make negative holder lightproof.
7. Turn on the lights for the exposure.
8. Turn off lights, and by illumination of safelight remove film from negative carrier and develop as usual.

negative used for focusing. This is taken care of by using a mask in the negative holder, or cutting a mask of desired size from a sheet of black paper. Or Scotch tape may be used on the lower glass of the negative holder to outline the negative's position. The negative used for focusing and the negative to be exposed are of the same size.

When the negative holder slides into position as in the Elwood enlarger, its position is adjusted by means of an "L" shaped piece of cardboard, as shown in Fig. 2. With this template, the proper position of the negative can be located accurately even in complete darkness.

The mechanics involved in copying are quite simple. First, place the picture or sketch to be copied directly under the enlarger lens. It is not recommended that the

• With sliding negative holders, an "L" shaped piece of cardboard serves to locate the position of the negative. Fig. 2



print be held under glass, as glass is apt to reflect light to the film and cause light spots or fog. A very sharp negative is

placed in the negative holder exactly as though an enlargement is to be made. The film is projected and focused on the print being copied so that the projected area will be slightly larger than the print area. This insures getting all the picture on the film.

The enlarger projecting lamp is disconnected. Process and commercial film can safely be exposed to red light, but the commercial pan must be handled in green light or, preferably, complete darkness. The focusing negative is then removed and a piece of the proper kind of film is placed in the film-holder.

The emulsion, or dull side, is placed in the film-holder to face the enlarger lens. As a precaution, place the red filter of the enlarger in position or use a lens cap.

Now the problem of illumination must be considered. Uneven illumination will ruin a copy. In most cases, two lamps of 50 watts each are used. They are held at equal distances from the print and arranged to spread the light uniformly. Vaseline applied on the surface of a print facilitates reproduction.

Exposure time will vary for the different films and subjects. The author has found that the proper timing with an enlarger lens opening of  $f/8$  and 100 watts of light held about 12 inches from the print is about four seconds.

A special enlarger film holder to facilitate copying with the following enlargers is sold by E. Leitz, Inc: Valoy, Vamax, Vogos, Vokum and Focomat I. The holder has a pressure plate for holding the film in a flat plane and a dark slide exactly similar to that on a plate or film holder which must be pulled out before making the exposure.

What film to use? Any film may be used for copying, but best results are obtained with one of the special high contrast emulsions. These are slow enough to permit the use of a safelight. Process film is used for originals having extreme contrast, such as pen and ink sketches and

(Page 78, please)

# DEVELOPING your first roll of film

*If you think snapping pictures is fun, wait until you start developing and printing your own! Darkroom experience will improve your picture-taking technique, too. It's easy.*

By LEW NICHOLS

"**H**OW do you develop a roll of film?  
—Why, it's simple!"

"But," said Joe, "I've never done it. I don't know how to start. The more I read, the less I know. I want to do my 'homework' and see if it's as exciting as you say. Can't you describe it in a way that's easily understood and easily followed?"

I know how Joe felt. When I started, I read everything I could put my hands on and still couldn't learn the essentials.

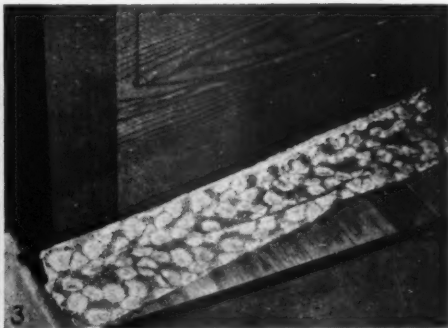
I desired to know exactly how to develop a roll of film, how to make a print, and how to display it before my friends.

I wanted to know what to buy, how much it would cost; what I *had* to have and what could wait. I wanted to start with the bare essentials, and leave refinements for the future when I could understand them. Now Joe was in the same fix.

"Here's the story in a nutshell," I said,



● Begin by placing the developing tank and chemicals in a bathtub or other large container, and immerse in cold running water for about an hour. Include ice if necessary, until temperature, as shown by the thermometer, reaches 70 degrees F. Fig. 2.



● While solutions are cooling, make sure your darkroom is light-tight. A strip of cloth across the bottom of the door, may be enough to convert any bathroom or closet into an efficient darkroom. Close door, wait inside a few minutes and then see if you can spot any light leaks. Fig. 3.



● See-saw method. If no film developing tank is available, trays may be used for holding the solutions. For best results, especially for miniature negatives, the use of a developing tank as described in the article is strongly recommended. Fig. 1.

and started to make a list:

|  |              |
|--|--------------|
| 1 Film tank .....                      | about \$5.00 |
| 1 Thermometer .....                    | .50          |
| 1 Funnel, enameled or glass.....       | .25          |
| 1 Chamois skin or Viscose sponge ..... | .50          |
| 1 32-Oz. Graduate .....                | .35          |
| 1 Glass stirring rod.....              | .10          |
| 2 Film clips .....                     | .10          |
| 1 Qt. Developer (D-76).....            | .25          |
| ½ Lb. Acid Fixing powder.....          | .15          |
| 1 Lb. Sodium bisulphite.....           | .30          |
| 1 Lb. Potassium chrome alum....        | .30          |

The above may be obtained at any photo supply dealer's. In addition, you will need three or four quart jars, and a large dishpan of any size which is available in the kitchen.



Fig. 4.  
● Developer, short stop, hypo, film tank, thermometer and kitchen clock all ready to develop a roll of film.

This is sufficient material for developing ten rolls of miniature film, and after this start, future rolls can be developed for about 12 cents a roll. Later, we'll list the few additional items needed for making prints. Now, let's develop a roll. There's nothing difficult in it.

Step one is to mix the hypo. Heat some water in a glass or enameled tray to about 120° F. Use distilled water or water from the cold tap.

The ½-pound size of "Acid Fixing powder" will make a quart of "fixer" or "hypo," as it is commonly called. Fill a quart jar about three quarters full of warm water, dump in the contents of the large package and swish the jar in a circular motion for about five minutes or until all the powder is dissolved. Then add the contents of the small package, and again spin the contents. Fill the jar with water. Your hypo is ready.

In your next quart jar, the developer is mixed in much the same way. D76 comes in a can with two compartments. First dissolve the contents of the largest compartment. Swish the jar until the powder is dissolved and then swish for a few minutes more to make sure it is thoroughly dissolved before adding the contents of the smaller compartment. Then fill the jar with water and stir it again until completely dissolved. Your developer is ready.

Instead of D-76, you may use a developer such as Champlin 15, Candidol, Edwal 12, or M. P. G. These come all



Fig. 5.  
● Loading film on the reel in the darkroom. Pan-chromatic film must be handled in total darkness.

ready in liquid form. These developers give finer grain than D-76 and allow the making of enlargements of greater size. From your first negatives, however, you probably will be satisfied with 5 x 7 inch enlargements, so D-76 will be satisfactory for a starter. For your next batch of negatives you can graduate to one of the other developers.

You now have developer and hypo each in its quart jar. Be sure the jars are labelled.

Open the sodium bisulphite and potassium chrome alum, and measure a level teaspoon of each into the third quart jar, dissolving the sodium bisulphite first. Cold or warm water may be used, but use of warm water (at about 120° F. or lower) will hasten the dissolving process.

The three quart jars are immersed in cold water to bring them all to 70 degrees.

A large dishpan or bucket of any convenient size or shape can be placed in a sink or bathtub on a couple of wooden blocks. The quart jars and thermometer are placed in the dishpan into which cold water from the spigot flows and then overflows down the drain. Ice, if handy, may be placed in the large dishpan. Allow about an hour to get all the jars and their contents to the desired temperature of 70 degrees.

With your solutions prepared and resting in the cooling pan, the next step is to take your roll of film into a dark room

*Future articles in this series of darkroom articles for the beginner:*

*Next Month: "How to Make Contact Prints."*

*November: "How to Make Enlargements."*

and load it into the film tank.

The tank I use is of the adjustable type, which handles film of the 35 mm., vest-pocket, 120 to 116 sizes. Thus, if a friend has a special roll he wants me to take particular pains with, rather than entrust to the drugstore, I probably can handle the film in my tank. And, to me, the chief advantage of the film tank is the fact that outside of loading the film, all operations can be carried out in broad daylight, and a roll of 35 mm., is hard to do by see saw!

Loading the film into the tank can be accomplished in closet or other light-proof room, after first covering up any possible light leaks. To test a room, remain in the dark for at least five minutes to accustom your eyes to the lack of light and then see whether you can spot any light coming in from the outside. When handling film, especially of the panchromatic variety, no light should be permitted to enter. For this reason, the night hours are likely to be the best.

In lieu of a darkroom or loading room, a changing bag may be purchased. To build your own changing box, see MINICAM for August, page 57.

Load the tank with care. It is a good



● With the film loaded and tank carefully closed, you now can turn on the light and pour the developer into the tank. Note the exact time and agitate gently every few minutes. Fig. 6.



● After the required number of minutes, the solution is poured out of the tank back into the bottle so it can be used again. If no light-proof pouring vent is provided on the tank the above steps must be carried out in total darkness. Fig. 7.

● Miss Charlotte Becker of New York City made the prize-winning picture, "PATSY," below, with her Rolleiflex. Using the cine film adapter, she made this on a regular 35 mm. spool. Only half of the 24 x 36 mm. frame was used in making the salon print—which was 8 x 14 inches and showed no grain. Enlargement: about 16 diameters.



"PATSY"

Fifth Prize

by Charlotte Becker

THIRD ROLLEI SALON

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The New AUTOMATIC

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idea to practice first with a developed roll in daylight. Instructions for loading are furnished with all tanks. In the darkroom, the roll of film which is to be developed is wound on the reel, the reel is inserted in the tank, and the light-proof cover carefully closed. Now lights can be turned on and the rest of the work can proceed in the open, in bathroom or kitchen sink.

The thermometer indicates the temperature of the water in which the three jars are immersed. They have been in there an hour or more so that now all four of the bottles are at 70 degrees Fahrenheit. We'll check the temperature, though, just for fun; yes, exactly 70 degrees. Okeh; now take the tank which was loaded with film in the darkroom, remove the little light-cap, and carefully pour the developer into the light-proof opening. Replacing the cap, put tank and all back into the tub of 70-degree water. With 70-degree developer inside, and 70-degree water outside, we can bet that the film is going to be developed at 70 degrees!

Give the tank a spin every now and then. This proceeds until the required number of minutes have elapsed. What

### *Follow these steps:*

1. Load film into tank in darkroom and fasten lid.
2. Pour developer into tank. Agitate tank gently every few minutes, moving in a circular direction. Development time for D-16 is 10 minutes at 70 degrees for Finopan, Dupont Parpan or Panatomic film. For most other films, development time at 70 degrees is 14 minutes.
3. Pour developer out of the tank, back into its bottle.
4. Pour the short-stop solution into the tank, agitating gently for about three minutes.
5. Pour out short-stop. This cannot be saved for additional use unless it will be used within a day or less.
6. Rinse with 70-degree water.
7. Pour in the fixing solution. Fix for 15 minutes.
8. Pour the fixing solution back into jar labelled "fixer." This can be used several times if desired.
9. Now the tank cover may be removed and the film exposed to light. Wash for 30 minutes in water of about 65 degrees under a spigot as shown in Fig. 8.
10. Wipe the film gently with a piece of wet chamois skin or a pair of viscose sponges.
11. Hang up to dry in a dustless room.

development time to allow? This depends on the developer used, how fresh it is, the kind of film and the temperature at which the development will be carried out.

It depends also upon the degree of contrast desired. Don't let this concern you now, however. Later, you will learn



Fig. 8.

- After fixing 15 minutes, the top of the tank is removed, and washing accomplished under a spigot with water allowed to run in and overflow.

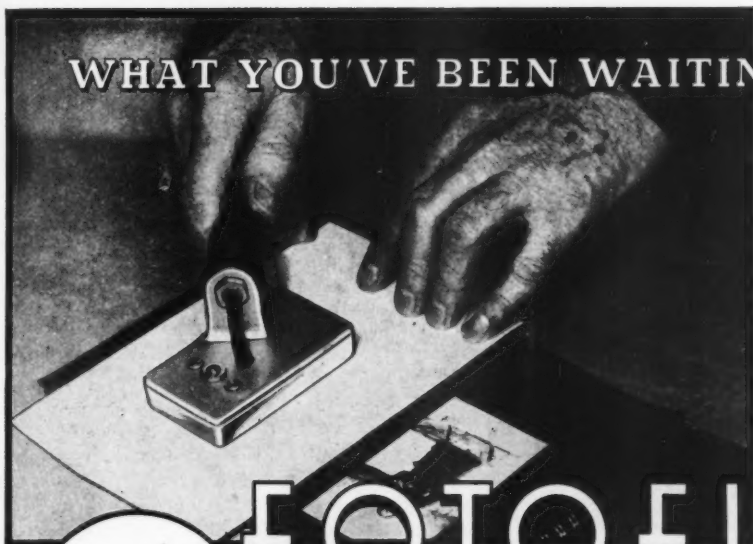


Fig. 9.

- Wipe the film with a wet chamois skin or a pair of viscose sponges as shown above. Be careful not to scratch. Hang up to dry in a dustless room. After drying, the negatives can be cut up or allowed to remain in strip form. How to make contact prints from these negatives will be described next month.



WHAT YOU'VE BEEN WAITING FOR!



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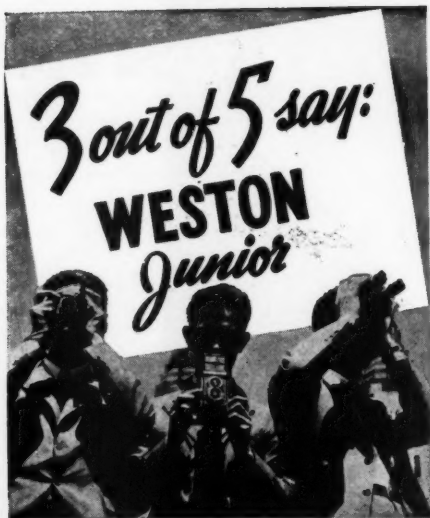
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(Right) The Model 819 Ciné WESTON... preferred by movie-makers for the convenience of the "pre-set" ciné exposure dial. Price \$22.50.

that dull, flatly lighted subjects are given longer development time than contrasty subjects, such as portraits in sunlight.

At the moment, we have a roll of film in the tank and want to know how long to keep it in the developer. With prepared developers, it is only necessary to consult the manufacturer's chart. Fresh Champlin 15, for example, would develop Panatomic film in 13 minutes at 70 degrees.

In D-76, develop films such as Finopan, Panatomic, etc., 10 minutes at 70 degrees. Develop the fast pan films, S. S. Pan, Du Pont Superior, etc., and the "chrome" films, such as Plenachrome, Verichrome, etc., 14 minutes at 70 degrees. These times are for tank development. If tray development is used (as in Fig. 1) the above development times should be decreased to 7 minutes for Finopan, etc., and to 11 minutes for the S. S. Pan and Chrome type films.

When the time's up, pour the developer back into the bottle. Then pour the short-stop solution into the tank. This solution is left in the tank for three or four minutes. Its purpose is to harden the film. The tank, of course, is in the 70-degree water while this short-stop is working, and is agitated several times, as with the developer.

This being the only roll we are to develop now, we'll just pour the short-stop down the sink, as it will not be satisfactory tomorrow and the amount used costs less than a cent. Rinse tank contents in the 70-degree water.

The hypo solution next is poured into the tank and after about five minutes, the tank cover may be removed. Light for the first time now reaches the film. You can watch the hypo at work as it dissolves the rest of the coating on the film. Spin the tank every once in a while. After 15 minutes, spill the hypo back into its jar as it can be used again.

Development now is complete except for washing and drying the film.

Remember to keep all solutions up to this point at a constant temperature. The

film must not be exposed to light until it has been in the fixing solution for 5 minutes or more.

Washing should be done by a stream of cold water at about 70 degrees if possible. Colder water is all right, providing the water with the film in it is cooled slowly. Wash for 30 minutes.

Hang the film from a film clip or an office "bulldog" clip. Now we bring out another jar in which a piece of chamois skin is kept soaking in water constantly. Wring out the chamois and wipe the film gently to remove all drops of water. Or a viscose sponge may be used for this purpose. Wipe slowly and gently to avoid scratching the negative.

Hang the film in a dustless room, preferably in a warm, dry atmosphere. In an hour or more, depending on the temperature and humidity of the room, the film will be ready for printing.

Personally, I have given up the swish-ing-back-and-forth-in-a-tray developing, as shown in Fig. 1, in favor of tank developing. The tank, therefore, is first on the list of materials needed. For the sake of economy, the film reel alone may be purchased, and immersed, for processing, in a glass graduate or a circular enameled tray of suitable size. With this procedure, development proceeds in the order outlined in this article except that all operations must be carried out in the dark from the time the film is loaded on the reel until the film is in the hypo.

How to build your own developing tank for 35 mm. film was described in MINICAM for May, page 64.

Although practically all prints these days are enlargements, it is a good and economical idea to first make contact prints of all negatives. A contact print is the exact size as a negative.

The first principles of printing can be most easily learned by making contacts. This experience will serve in good stead when we start making enlargements. "How to Make Contact Prints" will be covered next month, and "How to Make Enlargements" will follow.



A Graflex picture by George S. Erb

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# HOW *to use* Flash!

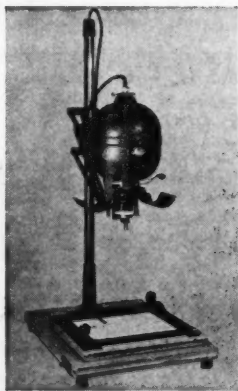
What film, bulb, developer, synchronizer, shutter to use? The answers are provided here in the second and concluding article of this series.

- **What Is the Relative Efficiency of Focal Plane and Front (between-the-lens) Shutters?**

Focal plane shutters can never equal the efficiency of front shutters insofar as photoflash synchronization is concerned. The reason for this is that during the time that the light from a burning flash bulb is at peak intensity, from 90% down to 50% of the peak light is falling upon the opaque part of the traveling curtain. Because of this the focal plane shutter re-

quires a larger lens stop, all other things being equal, than does a front shutter.

The proof of this can be verified by making synchronized flash pictures with two cameras—one having a Compur shutter operating at 1/500th second, the other a back shutter also operating at 1/500th second. In every case where the shutters are properly synchronized the negative produced by the Compur at 1/500th will have from three to five times the density of the negative produced by



Leica Model IIIb with Leitz Xenon f:1.5 Speed Lens and Rapid Winder.

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The Leitz Valoy and Focomat I Enlargers are the favorites of miniature camera photographers. The Valoy is manually focused and priced at \$45.00, while the Focomat I provides automatic focusing up to 10 diameters and is priced at \$75.00. For negatives up to  $2\frac{1}{4} \times 3\frac{3}{4}$  inches, the automatic focusing Focomat IIa and the manually focused Vaxex Enlarger are available. Write for prices and full information.

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the focal plane shutter.

In dollars and cents the Compur shutter will permit the use of the smaller size, less expensive flash bulbs—a matter of 10c to 15c less per exposure.

A final and probably serious fault of the focal plane shutter for synchronization is the lack of uniformity of exposure, especially for large size negatives. The smaller the negative size, the less important this limitation. Some part of the negative made by back shutter synchronization is bound to get more light than the rest of the surface due to the fact that the light from the flash bulb itself is never an even, uniform source of illumination. In the case of the Compur, no matter what part of the illumination from the lamp is caught, the negative will be uniformly lighted.

There are now available, for use with small focal-plane shutters, the No. 2 Super-flash (wire) bulb and the two new Mazdas, No. 7 (wire and foil) and No. 15 (special long-peak foil). "How Flash Works," in MINICAM for May, further explained the characteristics of flash bulbs.

\* \* \*

### ● Can the Robot Be Synchronized?

The Robot shutter is neither a Compur nor a focal-plane. It is a rotary disc behind the lens, operated by the motor mechanism, and released by a trigger-button. It can be synchronized perfectly. Of course, you sacrifice one feature of the Robot—the sequence shots—because you will have to change bulbs and reset the synchronizer. With the modern push-pull sockets and quick-setting synchroflashers, this need not take long. Of course, you can rig up a set of three sockets, each with its own reflector, and a three-way switch to link one of these sockets at a time into the synchroflash circuit. This will enable you to shoot three pictures in very rapid succession.

\* \* \*

### ● What Is the Most Efficient Speed for Synchronization on the Leica or Contax?

Because of the difference between the Contax (up-and-down) and the Leica

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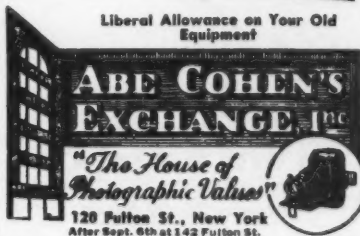
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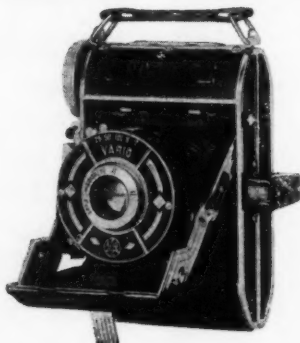


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(side-to-side) shutter travel, and the difference in curtain-acceleration (speeding up en route across the film), these two cameras have entirely different characteristics when it comes to synchronized flash.

At the standard condition of 1/200 second at 10 feet, both cameras give the same results (assuming cameras and synchronizers in good condition). Using the same aperture, film, distance, and bulbs throughout, film density was found to decrease at slower speeds, increase at higher speeds, with the Contax. With the Leica, on the other hand, density increased with slower speeds and decreased with higher speeds. In use, with the Contax, you should get closer or open up the lens more, at speeds slower than 1/200. With the Leica, get further away or close the lens down. At higher speeds, with either camera, reverse the procedure.

Try working at 1/200 second, at 10 feet, with either camera, until you get the feel of it. Lens stop might be f6.3 or f8 for average shots. Then try an occasional variation, following the particular procedure outlined above for your camera. In no time at all you will learn the correct exposures and efficient speeds for your own camera.

\* \* \*

## • What Size Bulb Shall I Use?

The bigger the bulb, the farther the light will travel. That goes for reflectors, too: the bigger the reflector, the more light you get out of your bulb, provided the bulb is properly centered. Besides, the smaller bulbs have a tendency to travel in a "beam", giving uneven coverage of the image field, particularly on close shots with a fairly wide-angle lens. For most work, particularly where large areas are to be covered, the medium sizes (No. 2 or No. 20) are preferable. They cost more, and are bulkier, but enable you to stop down farther.

There are many occasions when the small and baby sizes (Press 40,000, No. 1, No. 0, No. 7, and No. 15) are ample—where large areas are not encountered, where depth of field is to be avoided,



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where the brighter flash is not needed or not desired, or where question of either bulk or cost is involved. The tiny bulbs are ideal for use with the very fast pan press emulsions and will fill up a room of average size with sufficient light to enable one to work at the same distances he would use with a larger flash bulb—the only difference being that with the small bulb one only opens up his lens diaphragm a stop or two more.

The very large sizes (No. 3 and No. 75) are useful only for very large outdoor areas and for color work.

#### • What Bulb Shall I Use, Wire or Foil?

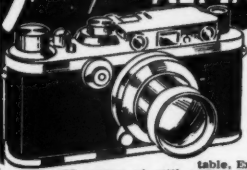
For small focal-plane cameras, the best is the long-peak (wire) bulb, such as Superflash No. 2 or Mazda 7 or 15. For Compur shutters, either will do. At high speeds the high-peak (No. 20 foil) bulb will give more exposure than the long-peak (No. 2 wire) bulb—Assuming Perfect Synchronization and lamp uniformity.

The current vogue for wire bulbs on Compur shutters is based quite frankly on the fact that some synchronizers have a habit of not hitting at peak. Many photographers, despairing of perfect synchronization, have switched to the long-peak bulbs. This cuts down the chance of misfiring. But at the same time this cuts down the amount of light utilized—except at slower speeds.



• Types of flash bulbs. Left to right, the foil type, the wire type, and the combination wire-foil type. The foil and wire-foil bulbs are manufactured by G-E and Westinghouse; the wire type by the Wabash Superflash Corp. The bulbs illustrated are No. 20 Photoflash, No. 2 Superflash, and No. 7 Photoflash, respectively.

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The best bet is to get a synchronizer you can depend on, and keep it at peak, even if it means an occasional trip to the factory. Wasted bulbs and film are expensive. Once you have a good outfit, keep it at peak. Even using the long-peak bulb you are not getting full exposure from your bulb if the camera doesn't "synch" right.

Wire bulbs at high or low speed shutter settings exceed the illumination from foil lamps when lamps of equal list prices are compared.

\* \* \*

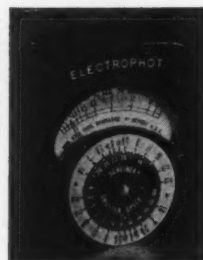
### • What Exposure Shall I Use?

There are many exposure charts published for use with synchronized flash, prepared by various manufacturers. Use any of them—but with discretion. Charts are approximations. Correct exposure is very important in flash work; you can attain it only by experimenting. The important thing is to avoid the press-photographer's weakness for overexposure. This blocks up highlights. A flashbulb negative should pass the test for quality compared to a negative exposed any other way—long scale of tones with transparent highlights and some suggestion of tone in the shadows. If your highlights are blocked up, stop down your lens or get farther back.

An average shot in a normal room, using fast (not extra-fast) pan or ortho film, should be well exposed at about f16, 1/200th second, using either the No. 2 or No. 20 bulb, working at 10 feet, with an efficient reflector. When working at other distances remember the rule about light: at twice the distance you have only one-

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fourth the light. At other speeds remember that with the No. 20 there is little difference, with the No. 2 there is considerable difference, assuming equipment in good condition, and no appreciable illumination other than the flash. In bright light, of course, slower speeds give more exposure regardless of the type of bulb used.

### ● What Developer Shall I Use?

Your favorite developer plus 17 grains of common sense. Avoid the press photographer's habit of overdeveloping in a fast, contrasty soup. Follow the manufacturer's recommendations. Where two formulas are given, a commercial or "press" type, and a portrait formula, you'll find the second much better for most flashbulb work, and less grainy. Your negative should pass the test outlined in the discussion of exposure. What is more, it should give a pleasing enlargement on medium paper. Judge your negatives by the way they enlarge—not the way they look in the hypo. There is no more excuse for blank white areas in a flashbulb print than in any other type of print. Such areas mean negative overexposure or overdevelopment—or both.

Grain? Remember that an overdeveloped negative is more grainy than a soft one—which fits right in with the suggestions made here.

### ● How Can I Get Away From Flat Lighting?

First, you can get much better quality in your flash pictures by more careful exposure and development. The press photographer overexposes, overdevelops, in full strength D-72, prints on Extra Hard Glossy paper—and squawks about flat lighting. There are flashbulb men doing high-calibre portraiture, industrial, and commercial work—yes, and salon pictures, too—with normal flashbulb lighting. I've seen beautiful flashbulb portraits on Gevaluxe paper!

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particularly good for newspaper reproduction, because of the 45-degrees portrait lighting that it permits. In the tandem flash, two bulbs are fired, one on the camera, the other at the end of an extension cord. You can get further details on either from the manufacturer of the particular synchronizer you are using.

### • How Can I Take Color Pictures Indoors?

The answer of course is Dufaycolor or Kodachrome with flashbulbs. The trend is away from the one-shot cameras, even for commercial use, I think. Good three-color separations can be made from Kodachrome or Dufaycolor; and engravers make plates directly from transparencies.

Exposure data for color shots is difficult to give. With Kodachrome my best suggestion is to experiment with Panatomic. Then shoot the same set-up with type A Kodachrome and filter, as Panatomic is close to type A Kodachrome in speed.

For Dufaycolor try three medium bulbs on a close-up portrait shot. First arrange the reflectors with low-wattage lamps to give shadowless lighting; then change to flashbulbs. Two or three bulbs can be synchronized with Mendelsohn or Abbey synchronizers; three or four with the Kalart senior. For more bulbs you can make use of special multiple flash units which can be had from the respective manufacturer.

Or you can shoot an open flash without the synchronizer, on the 110-volt house circuit.

Most amateur indoor color transparencies have inadequate illumination. Even well-equipped commercial studios, which have enough floodlighting for a good color shot, often prefer flash. Color film requires a lot of light.

Except for special effects, types of bulbs should not be mixed for color work. There is more red in the foil (high peak) bulb, than in the wire (long peak) bulb; using both types on the same shot will often give unbalanced color. In all cases the correct filter as recommended by the film or bulb manufacturer is necessary for good results.

## Distortion

(Continued from page 38)

enlarger, the lens naturally focuses only on one plane at a time. Usually it is desired to get all parts of the print in sharp focus. This is accomplished by stopping down the enlarger lens to a small opening. In Fig. 7, the lens was stopped down to  $f/22$ , but focused on the man's vest while keeping the foreground out of focus. As a result, the grass is fuzzy and out of focus.

Distortion in printing is most easily understood by beginning with easel-tilting. This furnishes elongation which may be either vertical or horizontal. See Fig. 6.

A piece of white paper, the size of the desired print, may first be manipulated under the enlarger and the resultant images noted until a desired effect obtained. Then the sensitized paper is substituted in the same position. At this point it is desirable to have an orange filter on the lens so a final check of the image on the sensitized paper may be made before the exposure is made.

The paper must be fastened so there is no motion during the exposure.

The next problem is that of focusing. Usually it is desired to have the entire print in sharp focus. First focus just above the middle height of the print. Then slowly stop down the lens, watching the image until it all comes into focus. If there is any degree of tilt, the smallest enlarger lens opening probably will be used. The closer the print to the lens, the smaller the opening necessary. For this reason, it is a good idea to make fairly large prints.

As stopping down the lens will require correspondingly longer exposure, negatives for distortion prints should be thin enough to require fairly short exposures when making normal prints. Apart from this qualification, any negative may be used.

## Bass Bargaingram

Vol. 28, No. 9

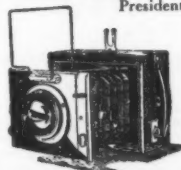
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## Copying with Enlarger

(Continued from page 61)

written or printed matter. India ink reproduces well but blue ink does not. Developed in a D-11 developer (or D-72 may be used), process film will produce clear whites and opaque blacks. Any of the following may be used:

Film speed ratings for use with tungsten and flood bulbs.

|                       | Weston | Scheiner |
|-----------------------|--------|----------|
| Eastman Process       | 0.3    | 1        |
| Gevaert Process Extra | 0.5    | 5        |
| Defender Process      | .75    | 9        |
| Agfa Process          | 0.3    | 1        |

For black and white pictures, such as in copying salon prints after retouching and spotting has been accomplished, use Commercial film.

|                     | Weston | Scheiner |
|---------------------|--------|----------|
| Eastman Commercial  | 1      | 10       |
| Defender Commercial | 3      | 19       |
| Agfa Commercial     | 2      | 16       |

Develop in any normal film developer such as D-76, D-72 or D-7, and there should be very little loss of quality.

Colored pictures should be copied on a Commercial Panchromatic film. One of the following brands may be selected:

|                         | Weston | Scheiner |
|-------------------------|--------|----------|
| Agfa Commercial Pan.    | 10     | 18       |
| Eastman Commercial Pan. | 6      | 17       |
| Defender Pan. Process   | 2      | 16       |

This type of film will reproduce colors in grays and blacks with proper tone quality. Develop in D-76, D-7, or D-72 or any standard film developer.

These films may be purchased in cut film packages of 1 dozen in all standard sizes. They are rugged and easy to handle.

## Giraffes

(Continued from page 29)

the quarry, the animals heard us and were off. Shooting with a camera is more difficult than with a gun.

Lighting in East Africa is different and difficult. Grass and vegetation seldom is green, but remains a burned straw color

most of the year. As a result there is not enough contrast between an animal and his background for a good picture. The protective coloring of most animals blends in with their surroundings. In the case of giraffes, the dark oak-leaf pattern of their coats is of some help.

Heat waves present another problem. Caused by unequal warming of the air, they act like a veil between camera and subject. Care must be taken to snap pictures after a heat wave has passed and before another comes along. To avoid heat waves and get the most effective lighting, photographs usually are taken before nine in the morning and after four in the afternoon.

## Butterflies

(Continued from page 53)

be killed with chloroform or cyanide gas fumes.

Regardless of the make or style of camera you possess you may very easily adapt it to insect photography with the aid of portrait attachment, copying lens, or extension tube. Several very important items must be remembered, however. If portrait attachments or copying lenses are used on a camera that does not have a ground glass for focusing, the distance from lens to object must be accurately measured. If extension tubes are used on your camera, there must be an increase in exposure time to compensate for the alteration of the

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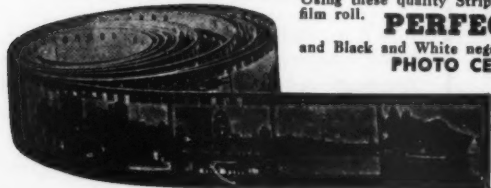
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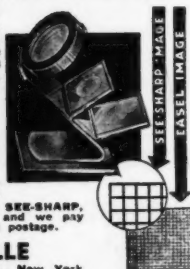
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focal length of the lens. This also applies to attachments. If the use of tubes and near focusing devices are resorted to, the depth of field of the lens decreases which necessitates the use of small diaphragm openings.

I use the smallest diaphragm opening for stationary objects which is  $f22$  on my Reflex Korelle with an exposure of ten seconds on Panatomic film using the light of a sixty watt mazda lamp in a reflector at ten inches.

The light strikes the specimen at right angles and the shadows are illuminated by the use of a concave mirror reflector from the opposite side. Patience is a virtue that is required in posing specimens. With very agile insects and larvae the shutter speed must be increased to a fraction of a second and the diaphragm opened wide. I have successfully used  $f3.5$  at  $1/50$ th and a No. 2 photoflood.

I place the subject at least three feet from a light colored background to insure negatives with neutral grey tones and to eliminate shadows cast by the light. A lens shade and tripod are essential for wire sharp negatives. Filters may be used for color correction of green larvae. I develop Panatomic film in D-76 developer for 16 to 20 minutes. The negatives when enlarged several diameters will reveal many interesting details that were not apparent in the original subject.

For information on how to use spectacle lenses for closeups, see the article on page 23 in MINICAM for August. Additional data on how to photograph insects can be found in "Backyard Dinosaurs" in MINICAM for January, 1938.

## Faking Speed Shots

(Continued from page 19)

It's a trick deck, all right, in Fig. 4, being securely glued together. It was necessary only to shoot it about  $1/50$ th of a second to freeze the motion of the "magician's" upper hand.

To simulate a stream of water, a piece of cellophane was stuck into a bottle

(Fig. 5) and the exposure made with ordinary flood bulbs, 1/25th second, at f/8. When lighted from the side, cellophane yields excellent highlights, and the result sparkles like a jet of real water, caught at a speed of 1/1000th of a second or faster.

The breaking plate in Fig. 1 was broken long before the shutter clicked and the Compur moved at a speed far slower than the 1/1000th of a second indicated by the falling bits of crockery stopped in mid-air. Cardboard and tape did the trick, and then a leisurely 1/25th second snapshot recorded the result.

## Book Reviews

**SHIPS AND WATER**, Edited by Alfred A. De Lardi, with a foreword by Joseph C. Lincoln, 56 pages, 91 full size photographs. David McKay Company, \$3.00.

A sensitively edited book offering photographs from the world's selection of all types and styles of ships and boats. There are varied selections of water: sea and harbors and marine atmosphere. A table of contents in the back of the book lists titles along with individual photographers' names and data concerning the prints. The book is spiral bound which enables the prints to be slipped out for individual framing if desired.

**DAS FARBIGE LEICA-BUCH**, by A. F. Baumann, edited by K. P. Karfeld. Seventy-two full page color reproductions with titles under photographs in German, French, Italian and English. B. Westermann Co., New York City. Price \$5.00.

Reproductions in this book show what excellent color work can be done with Kodachrome film. The photographer, who is well known for his work in black and white as well as in color, uses a Leica and several of the interchangeable lenses. It is interesting to note that many of the shots were taken with the wide angle, 35 mm., lens.

The text, written in German, includes several articles on color photography and a description of the technical details involved in the making of each photograph.



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# Photography

## TRADE NEWS

### Pic-Sharp, for Ground-Glass Focusing

PIC-SHARP, a magnifier for ground glass focusing, is announced as "See-Sharp's" brother. See-Sharp, a focusing device for enlargers, provides a brilliant, magnified image that facilitates accurate focusing.

Pic-Sharp, made with soft rubber, fits easily into any pocket or kit and cannot scratch the ground glass or become broken by dropping. With Pic-Sharp on your camera's viewing screen, you can be sure of critically sharp focus at all times. Images are not only magnified three times, but also brighter to speed up focusing in dim light.

Pic-Sharp also may be conveniently used to inspect Kodachrome and Dufaycolor transparencies for sharpness and quality. Pic-Sharp (\$1) and See-Sharp (\$2), are marketed by R. P. Cargille; 118 Liberty St., New York, New York.

### Enlarging Paper Box

HAVE you ever snapped on the white light in your dark room only to discover that you had inadvertently left a package of enlarging paper unwrapped? You have? Then you can shake hands with the majority of photographers, for nearly all of us have done it at one time or another, especially when making a quantity of enlargements or when pressed for time. No longer need this be the case, though, for E. Leitz, Inc., distributors of the Leica camera, now have available an ingenious enlarging paper box which won't permit you to do this, for it has a spring actuated lid which snaps shut and protects the contents of the box against light as soon as you take your hand off it.

The box holds several sizes of paper and it is something which will not only save your paper but will also save your time and temper. It is an accessory which should be in every well appointed dark room, for it does away with fumbling for paper which must be wrapped and unwrapped. Information on this enlarging paper box may be obtained from E. Leitz, Inc., 730 Fifth Avenue, New York, N. Y.

### Agfa Introduces a New Type Isopan With Speed and Fine Grain

A NEW and improved film has just been announced by Agfa Ansco Corporation of Binghamton, New York, with the introduction of Isopan New Type. Although definitely a high-speed material, this new film provides extremely fine grain. In addition to the unusual combination of speed and fine grain the new film that replaces Isopan formerly supplied, provides brilliant gradation and full color sensitivity. The new Isopan exhibits more than double the speed possessed by the older type—and at the same time a surprising improvement in fineness of grain. Photographers who use both 35mm. and cut film cameras will be interested to know that the new type Isopan emulsion is similar to the academy award-winning Supreme and to the Superpan Supreme that was recently added to the line of Agfa 35 mm. miniature camera films. Ideal for commercial and other photographic work requiring speed and brilliance, Isopan is also a logical choice whenever extreme enlargements such as photomurals are to be made. The film is also an ideal medium for three-color separation work in color photography. Isopan New Type is being supplied in all standard sizes on Safety and Nitrate base at no increase in price.

### Weston Announces New Film-Speed Ratings

AMATEUR and professional photographers can now obtain the new film-speed sheet just issued by the Weston Electrical Instrument Corporation, Newark, N. J., containing the latest ratings on some of the newer films. The sheet also includes revisions, made as a result of exhaustive tests on American films and some of foreign make, have been shown to produce nega-

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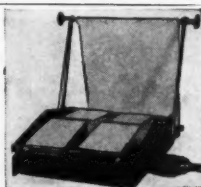


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tive densities which today may assure the most desirable photographic results, from the standpoints both of contrast and of printing quality. Copies may be obtained from photographic dealers.

A NEW ENLARGER EXPOSURE METER that gives an immediate and direct reading for projection printing of any negative on any enlarging paper is now on the market. It is the *Protype* Projection Exposure meter, made by the J. M. P. Manufacturing Company of Milwaukee.

Its use is simple. After focusing the enlarger for any desired size of print, the *Protype* is placed on the easel where the strongest light falls. With its "electric eye" at this position, the meter registers the correct exposure time at once—regardless of diaphragm setting, times of enlargement, density of negative or voltage changes in the electric circuit. It operates from a line coil plugged into the house circuit and is sensitive to an amazing degree.

It is also useful for judging opacity differences in various negative areas, for determining grade of paper to be employed and for balancing separation—negative exposures in color work.

It is said to save its cost in paper, otherwise spoiled, and appeals equally to professional and amateur photographers. Descriptive literature on *Protype* can be obtained by writing J. M. P. Mfg. Co., 3048 North 34th St., Milwaukee, Wis.

### Keystone 8mm Movie Camera

FEATURING unusual economy as well as exceptional performance, the Keystone 8mm cameras and projectors are attracting increasing interest on the part of amateur photographers who desire to take good movies with soundly designed equipment, but who are not prepared to invest substantial amounts of money. An example of Keystone's careful design is the pocket size K-8 8mm camera which has an exclusive feature permitting the use of the 30 ft. single width Agfa economy spool when there is not enough subject matter to fill an entire double-8 standard size Kodachrome or black and white film.

Another feature of the K-8 is its lens interchangeability. Those who buy the K-8 with 3 speeds and  $f/3.5$  lens at \$27.95 may later add telephoto and high speed  $f/1.9$  lenses without purchasing all new equipment.

Likewise designed to make quality movies economical are the Keystone 8mm projectors. The line includes a 500 watt projector with  $f/1.85$  lens at \$35 and a 300 watt projector at \$39.50.

In all, there are more than a dozen cameras and projectors in the Keystone line for both 8mm and 16mm films, and ranging in price from \$27.95 to \$71.00. The Keystone Mfg. Co., which is located at 289 A Street, Boston, Mass., has been making movie equipment for more than 12 years and has pioneered in technological development designed to bring prices down and at the same time keep standards of workmanship up.

### Build It Yourself

HOW MANY TIMES have we heard the phrase "Build it yourself and save money," and immediately a half dozen other "foto fanatics" would pop up, "Buy it, don't make it." You can never achieve the accuracy which is necessary for those salon prints with home made equipment. After 30 minutes of pro and con the discussion would end in a riot.

There is certain photography equipment that cannot be made at home, e.g.: Precision Miniature Enlarger but on the other hand there is much equipment that could readily be constructed by the average photographer. Such equipment as Contact Printer, Print Dryer, Film Dryer, Print Press and Light Stand fall into this category.

The goal of CAM-CRAFT products is to bring professional equipment within the reach of every photographer. The answer to this problem is equipment in kit form, distributed by ECONO-CAM, 260 Troy Ave., Brooklyn, N. Y. These kits are the newest innovation in photography.

For those who find it difficult to construct their own equipment, CAM-CRAFT has solved the problem. All parts in all CAM-CRAFT KITS are completely machined, cut to size and shape, all metal parts are formed, all screws and nuts are included in the kits. The only tool necessary to construct these kits is a screw driver. All units come complete with copy-righted layouts and instructions.

For further information write ECONO-CAM, 260 Troy Ave., Brooklyn, N. Y.

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| Exakta 8 F1.9 Meyer Primoplan                      | 107.00   |
| Wetlar 1/2 120 Schneider F2.9                      | 53.50    |
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| Dollina II F2 Xenon                                | 59.50    |
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| Silar 9x12 Triple extension Meyer Plasmat          |          |
| triple convertible lens W. A. lens                 | 97.50    |
| Zeiss Maximar F4.5 Tessar                          | 39.50    |
| Voigtlander Avus 9x12 F4.5 Skopar                  | 26.50    |
| Speed Graphic 3/4x4 1/4 F4.5 Tessar compur shutter | 94.50    |

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## Intercontinental Catalog Ready

THE INTERCONTINENTAL MARKETING CORPORATION, 8 West 40th Street, New York City, announces that its new Fall catalog is now available. In addition to Robot Cameras, Photrix Exposure Meters, Perutz Films and Developers, Jobo Developing Tanks and Intercontinental photographic accessories, the catalog features the new Diafant Projection Apparatus for 35mm black-and-white or color film for frames 18x24, 24x24 and 24x36mm. It also lists the new Photrix Electronic Timers and the Photrix Universal Photometers and accessories. You may obtain a copy of this catalog, free of charge, by writing direct to Intercontinental.

## Still Projector

TO AID in the better viewing of color and black and white transparencies, the Intercontinental Marketing Corporation brings to this country the famous Diafant line of projection apparatus. These machines, designed for maximum brilliance in projected quality, have already found favor abroad for their faithful rendering of the smallest slides.

The Diafant model 1 has a projection system based on a 250 Watt bulb. A polished glass reflector, three 60mm fixed condensers and a heat absorption filter make up the remainder of the illuminating system. The entire lighting unit may be centered for greatest efficiency, and the setup may be easily removed for cleaning. The front assembly revolves to permit the projection of either vertical or horizontal pictures, an Omar f/3.5 lens of 100mm focus transmitting the picture to the screen. Also provided is a shielded reading window for identification of slides during projection. The Diafant model 1 will show either film strips or 2x2 inch slides through a removable slide changing attachment.

The Diafant model 0 is somewhat smaller, is based on a projection system using a 100 watt bulb. All other details correspond with those of the larger model. The model 0 is fitted with a parastigmat f/4.5 90mm lens, is said to give very satisfactory pictures under normal conditions.

Included in the Diafant projection line are various attachments to make the projection of transparencies easier and more interesting. Clever is a gravity operated slide changer for long shows—removing one slide causes a new one to drop into place automatically.

The price of the Diafant model 1 is \$69.00, the model 0 sells for \$49.00. See these machines at your dealer or write to Intercontinental Marketing Corporation, 8 West 40th Street, New York City, for further information.

## New Simmon Enlarger

THE NEWLY introduced Simmon Model D Omega Enlarger for 4x5 inch and smaller negatives, fills the need of photographers who have long awaited a quality enlarger capable of handling the larger negative sizes.

The Model D Omega features the same sound construction, operating convenience, and brilliant results that have made the Model A Omega a favorite with 35mm. film users, and the Model B Omega "tops" with miniature workers in the 2 1/2 x 2 1/4 inch and intermediate size field.

This Model D Omega is an impressive machine. Notice how it towers over the Model A and Model B Omegas. It is a marvel for operating convenience. The rigid 2 inch diameter steel post—60 inches tall, a long bellows and the interchangeable lens board permit high ratio enlargements. Special dust-free negative carriers are available in a wide variety of sizes.

A highly efficient double condenser system, featuring a special standard voltage 100 watt projection bulb, gives short exposures on slower enlarging papers. The built-in heavy duty rheostat in the cast aluminum housing at the base of the pillar controls the intensity of light.

An exclusive Dyna-Thermal ventilating system, with bakelite lamp house, keeps negatives cool.

The 13" long focusing lever and smooth operating mechanism provide micrometer accuracy of focus, yet permit more rapid control than helical or rack and pinion movements.

A strong steel tape on enclosed spring reel completely counterbalances weight of the enlarger head and strong duraluminum supporting beams.

The Omegas are made by Simmon Bros., 37-06

Thirty-Sixth Street, Long Island City, New York.

### One Leg



THE SPORT-POD is a one leg camera support which at first glance resembles a walking stick—in fact, it is usually carried under the arm or in the hand or leaned upon when not used as a camera support. Closer examination, however, shows that the lower end is fitted with a clamp ring like that used on the "QUICK-SET" Tripod, to control an inner leg which may be extended as desired. One end of the inner leg is fitted with a rubber button, the other end with a spike.

The knob on top unscrews, exposing a standard camera screw with which the camera is fastened to the Sport-Pod.

The Sport-Pod extended brings the camera finder to eye level and used in this manner makes a perfect support for level shots. With the Sport-Pod furnishing a rigid vertical support comparatively long exposures can be made without any danger of fuzzy negatives. Long focus and telephoto lenses receive ample support without the weight or bulk of the conventional tripod.

The Sport-Pod is light (made of aluminum alloys); inconspicuous and handy (looks and carries like a cane); fits all kinds of cameras—movie or still, box or miniature; accommodates the standard "QUICK-SET" Universal Pan Head, long focus and telephoto lenses and other camera accessories. Distributed by Whitehall Specialty, 1250 Fullerton Ave., Chicago, Ill.

#### SPECIFICATIONS

Length—telescoped 33"; extended 60".  
Diameter—1" tube with 1½" knob. Inner tube ¾" in diameter, round rubber tipped one end, metal spike tipped at other end.  
Weight—17 ounces.  
Finish—polished aluminum and black crystal.  
Price—\$5.75.

### Flash Color Pics

THE ABBEY PHOTO CORPORATION announces the formation of a department devoted to the problems of flash color photography.

The Consultant in charge of this department is Mr. Edward Ozern, formerly with Dufaycolor, and questions concerning photoflash exposures, filters, processing, separations, etc., will be referred to him.

### Precis 66-A Enlarger

FOR the first time an enlarger of conventional type is available in an automatic focusing model without sacrificing any advantages of the plain model.

Completely automatic in focusing, Precis 66-A has an auxiliary manual control for adjusting the focus to the individual lens with utmost precision, thus combining the greatest advantage of both automatic and non-automatic types.

The illuminating system gives a perfectly uniform field for any aperture with condenser or diffuser, both of which are interchangeable. The change taking only a moment or two.

The focusing cam is accurately synchronized to the 9 centimeter lens, but the standardized lens board makes it perfectly practical to use other lenses, although in such cases, focusing is manual.

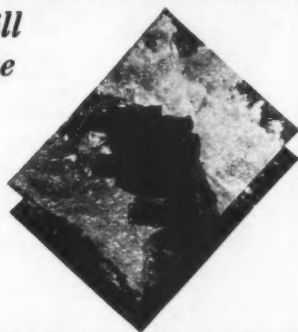
Features include: Lens—Laack f.4.5 anastigmat, 9 cm. (3½") mounted in standardized lens board. Negative holder—Will accommodate any size negative up to 6x6 cm. (2¼x2¼"). Linear magnification 7½ times. With supplementary lens, enlargements up to 12x16" are obtainable. Double condensers and opal glass. Patented, over-size lamphousing insures adequate ventilation; uses 75 or 100 watt lamps; lamp position adjustable. Base Board—Specially seasoned plywood, polished, balanced by rubber legs, 18x19". Rough or preliminary focusing by means of friction wheels on vertical post; micro-critical focusing by wheel action coupled to focusing by means of friction wheels on vertical post; Price Complete \$85.00. Raygram Corporation, 425 Fourth Avenue, New York City, is exclusive distributor.

### New Desensitizer

The Lynhoff Laboratories, Rochester, N. Y. announces an entirely new discovery for desensitizing films, called "Desensit!"

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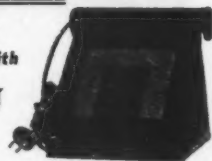
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darkness, can be developed (without fogging) by  
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There is no change in development time.

The concentrated solution can be obtained from  
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size 25c.

**New Eastman Super Kodak Adjusts  
Itself To Correct Exposure**

**Diaphragm of Unique New Camera Operates  
Under Automatic Photo-electric-  
Cell Control**

**A** NEW amateur camera which automatically  
adjusts itself according to the light con-  
ditions to give a perfect exposure of the scene  
before it, at snapshot shutter speeds from 1/25  
to 1/200 second, is announced from Rochester  
by the Eastman Kodak Company.

In this camera, the Super Kodak Six-20,  
technicians have accomplished the extraordinary  
feat of coupling a photoelectric cell with the  
lens diaphragm. When a picture is taken with  
the Super Kodak, its lens automatically "stops  
down" to the exact aperture required for per-  
fect exposure at the selected shutter speed.

Moreover, the same camera incorporates a  
range finder of radically new design, mechan-  
ically coupled to the focusing mount of the lens  
and combined with the direct eye-level view  
finder in a single eyepiece. Double exposures  
are automatically prevented by a device which  
precludes re-tripping of the shutter until the  
film-winding lever is operated. An automatic  
visual warning signal indicates when film should  
be wound to the next frame. Winding of the  
film automatically resets the shutter for the next  
exposure. The shutter carries slow speeds of  
1/10, 1/5, 1/2 and 1 second, as well as snap-  
shot speeds from 1/25 to 1/200 second, and  
a built-in self-timer device offers a delayed  
action interval of approximately 12 seconds. A  
galvanometer dial on the lens housing permits  
selective readings of light and shadow areas in  
a scene, as with a photo-cell exposure meter,  
and for special effects the lens diaphragm may  
be adjusted by hand.

When a camera is held for a vertical picture,  
the range-finder is at the top. Just below it  
is a multiple collective lens, with the sensitive  
photo-cell behind it. This multiple lens is so  
calculated that it covers the exact field of the  
camera lens—an important feature, in that it  
causes the photo-cell to react only to the light  
conditions in the picture scene.

At the moment the shutter is released, the  
photo-cell actuates the galvanometer in the lens  
housing, and the diaphragm adjusts to the cor-

rect aperture at the chosen shutter speed to produce a technically correct negative.

The shutter speed scale is seen through a window on top of the hood which projects over the bellows and lens. Adjustment is made by turning a knurled knob at the left of this hood. When the shutter is tripped, a red warning dot appears in this window to indicate that film should be wound.

The Super Kodak Six-20 is approximately the same size as a conventional Six-20 Kodak. It takes eight pictures,  $2\frac{1}{4} \times 3\frac{3}{4}$  inches, and its lens is a newly calculated Kodak Anastigmat Special  $f/3.5$ , closing down to  $f/22$ .



It is made for the photographer who would rather be sure of perfect pictures than guess at exposures. The user focuses and shoots. If he changes his shutter speed for a later picture, the coupled photo-cell and diaphragm galvanometer automatically compensate with a larger or smaller lens opening. Changes of light on an intermittently cloudy day shifts from a brilliantly-lighted scene to a shady spot, the need of quick change from a slow to a rapid shutter speed—all these variations are instantly equalized. Yet, if the Super Kodak user wishes to underexpose for a certain pictorial effect, or use a large lens opening to focus out an obtrusive background, he can push a single lever and convert the camera into a conventional focusing type. Retraction of the same lever returns it to its "Super" status.

Retail price of the Super Kodak Six-20 is \$225.00.

***Yours in a flash!***

## 1938 Speedgun

Used by 9 out of 10 Photographers

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| Contameter for Contax Model III, like new   | 39.50  |
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| Ernstmann lens, case, Acc. Ik. new  | 69.50  |
| 3 1/2 x 4 1/4 Ideal B, Carl Zeiss, F4.5   | 89.50  |
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| Rolleiflex, F2.8 Plaubel Anticomar, coupled range finder, new   | 69.75  |



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## Masterslide Transparency Mount

AN INNOVATION for fans using slide projectors is the new **MASTERSLIDE**. The **MASTERSLIDE** is a **KAIKO** product and its operation is simple. The film is inserted between two pieces of glass and the glass is then snapped in to the metal frame which has a little spring in it. This spring is the means of holding the film rigidly so that it will not shift or slip. This, of course, does away with the old fashioned method of taping, pasting and binding. The **MASTERSLIDES** retail for \$1.50 a dozen, slightly more west of the Mississippi.

This invention follows on the heels of the new **Slidemaster** Projection Library which is made of steel and is indexed to store numerically 150 slides. To those who are not fully acquainted with the **Slidemaster** Projection Library, it might be well to mention that it is finished in a rich maroon ripple and has two snap-locks and a handle. Slides placed in this veritable safe cannot shake or rattle when the Library is closed. The Library retails for \$2.75 and at \$3.00 west of the Mississippi.

## Kalart Contest Closes November 1st

**HOLLYWOOD** studio effects are now being obtained by amateur photographers who use a **Kalart Micromatic Speed Flash** in the sun. This pocket-sized light source provides the illumination necessary to get true movie-style results. It is a balanced light control that makes possible the beautiful and completely novel effects of **Synchro-Sunlight** photography.

The **Kalart Co.**, 915 Broadway, New York City, is offering a cash prize to the amateur or professional photographer who submits the best **Synchro-Sunlight** picture before the contest deadline, November 1. Second prize of \$50, third prize of \$25, and fifteen \$5 awards are also given away—a total of \$250.

Full information and entry blanks will be mailed on request.

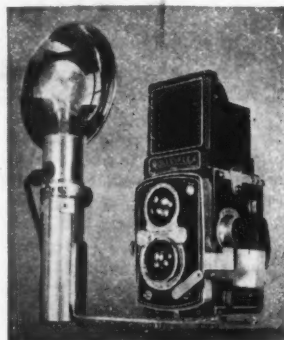
## Flashgun On Rollei

HERE IS **Abbey's M/M (Millimeter) Flashgun** mounted on an Automatic Rolleiflex and ready to go.

Unique is the method by which this synchronizer is adapted to the Rolleiflex cameras. The magnetic tripper is fastened to a metal frame which fits around the moving front of the camera. When the lenses move forward or backward, as in focusing, the frame and its tripper also move. The advantage of this method of harnessing an all electric synchronizer to the Rolleiflex is that no permanent attachments or changes need to be made in the construction of the camera, yet the apparatus is securely mounted. Additionally, placement of the tripping mechanism at the side of the camera removes all chances of the synchronizer equipment blocking any part of the picture.

As with all of **Abbey's M/M Flashguns**, the tripping mechanism of the **Auto Rolleiflex** model may be adapted for use with other miniature cameras by the acquisition of the proper mounting bracket. A two cell, satin chrome plated battery case with built in side lighting and five inch mirror finish reflector, (adjustable to all flash bulb sizes without extra cost) is standard equipment.

The **Abbey Flashgun** line now provides a synchronizer of all electric type for minor and major size cameras. Any one interested in obtaining the literature concerning the **Abbey Flashguns** can procure same by writing the **Abbey Corp.**, 307 East 45th St., New York City.



### De Luxe Printer

G. GENNERT, 210 W. 22nd Street, announces the new Montauk De Luxe Printer, size of glass  $6\frac{1}{2} \times 8\frac{1}{2}$  for 5x7 prints. The new Printer is the result of the overwhelming success of the Montauk Amateur Printer, improved model.

The De Luxe Model Amateur Printer is made of the best material and the best workmanship and finish. The size of printing surface is larger,  $6\frac{1}{2} \times 8\frac{1}{2}$ , instead of 6x8; the Mask shim rails are plated and wider shims are used and last but not least, a paper guide stop (adjustable) has been added. As a result this is really a De Luxe Amateur Printer and easily worth the difference in price. The price is \$14.00 list.

### Many Distinctive Features In New Abe Cohen's Exchange

IMAGINE a chromium trimmed staircase designed in the most advanced modern manner, embellished with a background of beautiful photo murals, leading to a graceful semi-circular mezzanine.

This attractive feature sets the pace for the new, and larger Abe Cohen's Exchange at 142 Fulton Street, New York City.

One of the principal centers of interest for both professionals and amateurs is the large gallery designed for one man exhibits. A useful feature of the new building is the completely equipped dark room available for the use of customers at all hours, while an operating display of lighting equipment will emphasize correct illumination. Here also will be found enlargers galore with special dark rooms for demonstrating them.

In this ample building every conceivable requirement of photo enthusiasts have been met. One may shop at leisure without crowding, or if one's time is limited the arrangement of merchandise on the various floors is designed to facilitate selection.

Complete air conditioning maintains a comfortable atmosphere at all times.

### Range Finder

THE RAYGRAM CORP., 425 4th Avenue, New York, New York, announces that they have just taken over the exclusive distribution for the United States of the American made Saymon-Brown Range Finder.

It's features are fool-proof, shock-proof construction . . . clear-cut superimposed images . . . quick setting, quick reading . . . beautifully finished in black and chrome . . . extension cord for attaching to camera . . . unconditionally guaranteed against mechanical defects . . . fine leather case included. Price, \$4.75.

For further information, write Raygram, New York.

### Zephyr Camera

THE RAYGRAM CORPORATION announces that it has taken over Eastern distribution for the Zephyr Candid Camera featuring two models, one with  $2\frac{1}{2}$ " Wollensak, f/2.9 lens, \$29.50—the other with  $2\frac{1}{2}$ " Wollensak, f/5.5 lens, \$22.50. An ever-ready Leather Carrying case is \$4.95 extra.

The following specifications are embodied in each of these cameras: Focal plane shutter; speeds from 1/25th to 1/500th sec., bulb and time. Diaphragm stops—3.5 (or 2.9), 4.5, 5.6, 8, 11 and 16.

A special hard aluminum alloy case is leather covered, with brushed aluminum trimmings. There is an automatic Film Counter.

Standard 36 exposure 35mm (Leica type) with Wollensak telescopic view-finder. There is also a winder lock built-in range-finder attachment; tripod screw, bush in base; and finger and cable release. Manufactured by Photographic Industries of America, New York. For further information write Raygram Corporation, 425 Fourth Ave., New York City.

### The M. C. M. Photometer

A NEW enlarging exposure meter developed by Percy Harris, the well known English photographic editor and technician, operates directly from any 110 volt A. C. or D. C. power source.

The M. C. M. Photometer was designed primarily to eliminate guess work, and the nuisance of test strips, from the enlarging process. It can also be used to determine the density scale of any negative and thus give a definite indication of the proper contrast grade of paper to use in each case.

It makes use of the well known "grease spot"

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**PHOTRIX**  
EXPOSURE METER

*because*

- It is **TRULY** sensitive.
- One dial...easy to read.
- Nothing to set.
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- Built with the precision of the finest watch.

Haber & Fink recommendations have been guiding professional and amateur photographers for over twenty years.

They endorse  
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No matter which exposure meter you own, exchange it here for this most modern photoelectric **PHOTRIX** EXPOSURE METER.

Let this friendly and complete photographic store fulfill all of your camera and photographic needs. Free demonstration of **PHOTRIX**... gladly! Write for descriptive literature and bulletin of many other specialties.

- **PHOTRIX** EXPOSURE METER \$15.00
- Ever-ready Leather Case 1.00
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Focus your Argus exactly from infinity down to 3 ft. by means of a screw ring, like higher-priced minicams. We use a microscope to adjust the **DON MOUNT** on your Argus. Only \$2.50. Write for free circular.

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Stays on the camera Open or Closed. Always in "Sync."  
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**109 FULTON ST. NEW YORK**



**MORE LIGHT—CHEAPER**  
**with the POWER-FLOOD**

**HAVE** plenty of light without worrying about cost, burnout  
of bulbs at a critical moment or blowing of fuses.

Ordinary Mazda light bulbs, now only 15c each, used with  
the Power-flood give powerful white light equivalent to special  
bulbs and at a fraction of the cost. The Power-flood burns the  
lights at two intensities. "Lo" or normal for arrangement,  
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posure with bulb life of 4 to 3 hours. Various size bulbs may  
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tion. 150-watt bulb is approximately equivalent to No. 2 and  
same size physically. Five power outlets are provided—a  
great convenience.

Portrait workers, commercial and illustrative photographers  
will appreciate the Power-flood. It is also excellent for en-  
largers, with long life and low heat for arrangement and "Hi"  
intensity for exposure.

Get your Power-flood at once. Start saving money and taking  
better pictures. The price is only \$6.75. See your dealer  
today. If he hasn't the Power-flood, send your order direct.

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**CHARLOTTE, MICHIGAN, U. S. A.**

laboratory method of light measurement and in-  
corporate several unique features such as a mono-  
chrome light source which prevents color change with  
varying light intensity thus aiding in speed and  
accuracy of operation.

The M. C. M. Photometer is being manufactured  
in this country exclusively by the Haynes Products  
Co. of 136 Liberty St., New York City.

## Exposure Meter

**THE DeJUR-AMSCO COMPANY**, manufacturers of  
fine radio and electrical precision instruments for more  
than fifteen years, have adapted their tradition of  
exact manufacture to the camera field with a new  
photo-electric exposure meter. This new instrument,  
known as the **DeJUR-AMSCO EXPOSURE METER**, was  
carefully designed to incorporate the most recent de-  
velopments in the industry, and at the same time it  
embodies many new features of its own.

Small and compact, the **AUTOMATIC LIGHT**  
**RULE** slips into the vest pocket. It is comfortably  
held and manipulated with one hand. In use, the  
meter is held at waist level, with the recessed cell  
opening pointing toward the subject. The light scale  
is then in the proper reading position—that is—with  
the figures indicating the intensity of light facing the  
photographer. In this position, the thumb may easily  
turn the large knurled ring of the computer dial.

The photographer now merely turns the dial until  
the indicated reading of the meter is next to the figure  
showing the emulsion speed of the film he is using.  
Now all the proper combinations of shutter speeds and  
diaphragm openings appear on the right half of the  
computer, and the one best suited to the character of  
the shot is selected. For example, if the scene shows  
a light value of 14 and the camera is 1/3 of a second  
at 1/25 to 1/1000 of a second at f/1.5. Of course,  
the dial shows all the intermediate stops and speeds,  
so that the most convenient one is easily selected.

This unique arrangement of the reading and com-  
puter dials gives the proper exposure at a glance and  
allows a maximum of versatility. Further, there is  
only one ring to turn for all four of the variables  
necessary in computing exposure—light intensity, film  
speed, shutter speed, and diaphragm opening.

The photo-electric cell is  
the stable flat type, protected  
by a glass cover. The reading  
instrument is manufactured  
according to the most rigid  
standards. The moving hand  
is mounted on jeweled bear-  
ings so that the slightest light  
impulse will give an accurate  
reading, and the instrument  
is so sensitive that it will en-  
able you to properly expose  
any scene. Calibrated up to  
speeds of 200 Weston, the  
DeJur AmSCO Exposure Meter  
will give direct readings with  
all films now in use and  
with those possible faster emulsions that have not yet  
been developed.

Precise, large scale manufacture allows this meter to  
be sold at \$9.75. See it at your dealer or write to  
DeJur-AmSCO Corporation, Shelton, Conn., for further  
information.



## Raven Screens

Portable motion picture screens for amateur cinematog-  
raphers are made in a wide variety of styles by the  
Raven Screen Corporation, 314 East 35th Street New  
York City. They offer a variety of sizes, ranging from  
18" x 24" to 12' x 12', and also many styles, including  
standard tripod model, automatic collapsible model, metal  
case hanging model, table model, etc.

A suitable screen, properly mounted, is one of the  
most important units used in projection, for on it de-  
pends to a great extent the success of all the effort ex-  
pended in the form of time, energy, skill and expense in  
producing the pictures. Therefore the selection of the  
screen is of paramount importance. Raven screens have  
been in use as standard equipment in most of the leading  
theatres and studios for many years, and now carry an  
excellent line of screens for "home movie" projection.

## Lettering Ink

**JOHNSTON'S "Snow White"** ink is a product that  
really lives up to its name. It is "snow white," and  
covers even dark colored materials. Each package con-

tains two specially-made silver alloy pens, one for writing and one for lettering; an excellent camel's hair brush; a rod for stirring; and a thorough direction sheet. "Snow White" ink dries with a perfectly smooth, white, ribbon-like line, covering perfectly with a single stroke. If it tends to dry up over a period of time, a few drops of water may be added and it will be as good as new. This is a practical and reliable product for both amateur and professional photographers. The manufacturer is J. W. Johnston, New Arts Building, Rochester, New York.

#### Exposure Calculator

Exposure is probably the most important single factor in producing good photographs. An exposure calculator that is truly simple enough for practical use—The Draucker Daylight Calculator—is made by the Munder Electrical Company. It provides for all vital factors, such as kind of day, time of day, kind of view, kind of film, etc., and lists speed ratings for all types of film. Also includes correct exposure calculations for movie cameras. With a few minutes of study, this calculator will be of real help when you want to know "What exposure?"

#### Central Catalog Ready

J. L. McCOY, camera expert of Central Camera Company, 230 So. Wabash Avenue, Chicago, has completed Central's newest Bargain Book. A copy will be mailed free upon request to readers of MINICAM.

#### New Seal Foto-Welder

SEAL, INC., Shelton, Conn., makers of Fotoflat and Foto-Welders, announce a new Foto-Welder designed for mounting large size prints with a minimum of effort.

This new No. 2 Foto-Welder has, in addition to the heating element in a larger size iron, a special soft-felt squeegee pad for completing the Fotoflat seal.

To mount the print with the number 2 Foto-Welder, lay the print face down and cover the back with a sheet of Fotoflat. Using only the edge of the Foto-Welder, tack the entire surface to the back of the print. Now trim the print and the Fotoflat as they were one sheet. Locate the print on the mount (this is easy because the Fotoflat is dry), and cover the print with a thin sheet of clean paper. Hold the picture in place with your left hand, while you slowly pass the Foto-Welder No. 2 across the print several times (a double-weight print has to be heated slightly longer than a single weight print because its extra thickness insulates the heat from the Fotoflat beneath).

Then, while the print is still hot, turn the welder so that the soft-felt squeegee faces the print, and rub the print down flat with the felt for a few seconds. It is not necessary to press down very hard, but only enough to counteract the stubborn tendency of every print to curl at the edges. If you do this until the print has cooled (which only takes a few seconds), the Fotoflat will hold it firmly and permanently.

Some photographers, in using the No. 2 Foto-Welder, on prints larger than 11x14, mount one half of a large print, heating it and rubbing it down, and then mount the other half. This, of course, after the Fotoflat has been lightly fused to the entire under side of the print.

#### Exakta Cameras Reduced In Price

GOOD NEWS in the form of reduced prices of the popular and famous Exakta Cameras has been recently announced by Photo Marketing Corporation, 10 West 33rd Street, New York City, N. Y.

At the same time the Exakta cameras, which include the Kine Exakta for 35mm film and the V. P. Exakta for No. 127 roll film, have been placed under the Fair Trade Act which, to the consumer means little, but which has a profound influence over the legitimate sale of these cameras through retail channels.

The Exakta single-lens reflecting cameras, with their focal plain shutters giving speeds up to 1/1000th second and slow automatic speeds from 1 to 12 full seconds as well as "delayed action," have been claimed during the past few years as among the most popular of miniature type cameras. Their interchange of lens feature and absence of parallax difficulties makes them the cameras chosen by those who appreciate the true single lens reflex feature in small precision cameras.

New literature describing both the Kine Exakta and V. P. Exakta cameras is available, and may be secured by writing to Photo Marketing Corporation, or in the Western states to Bell & Howell Co., 716 N. La Brea Avenue, Los Angeles, California.

## MINOPTICON

**\$9.95**

Postpaid



NOW: MIN-OPTICON combination optical speed printer and contact printer \$9.95 postpaid. Makes crisp, brilliant 2 1/4 x 3 1/4 enlargements from 2 1/4 x 3 1/4 mm. negatives (Argus, Contax, Leica, etc.) faster than contacts and prints up to 2 1/4 x 3 1/4 negatives by contact. The saving on your first 200 prints will pay for Minopticon.

OPERATION: The 35 mm. negatives, in the roll or single, are sandwiched in a negative carrier consisting of two glass plates and the carrier placed in the slot at the top—the same as in a regular enlarger—a sheet of enlarging paper placed on the glass plate; the hinged lid when brought down automatically lights the bulb to make the exposure (from one second up depending upon negatives); lifting the lid automatically shuts off the light. No focusing. SPEED: With normal negatives on regular bromide paper 200 to 400 per hour depending on operator.

CONTACT PRINTS up to 2 1/4 x 3 1/4 are as quickly made on regular bromide paper and exposures made as when enlarging. CONSTRUCTION: Steel finished in crystal baked on enamel; illumination is furnished by a 60-watt bulb and two condensing lenses; enlarged image is viewed on translucent top plate for framing picture. Comes complete with fixed focus lens, condensers, cord, bulb, and carrier ready for use. Size only 4 1/2 x 6 1/2 x 1 1/2. Take Minopticon on your vacation and make your own prints.

1/2 VEST POCKET SIZE \$9.95 postpaid is also furnished to make 3x4 prints from 1/2 vest pocket (3x4 cm.) negatives—single negatives or rolls—otherwise same as 35mm. model.

GUARANTEE: Minopticon is sold subject to return within ten days and money cheerfully refunded and is sold only direct to the user.

SEND FOR MINOPTICON — YOU'LL BE DELIGHTED.

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FULL 36 exposure roll of film developed and EACH good negative enlarged to approximately 3x4 inches, all for only \$1.00 complete. Developing receives individual supervision, eliminating "chance," insur-

ing sharpest enlargements . . . super quality—yet costs no more. Wrap a dollar bill around your roll of film with the coupon below and mail today . . . or you may send roll of film and pay postman, plus postage, on delivery.

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I accept your special offer! Attached you will find . . . 35MM rolls of film and \$1 in full payment for each roll. Please develop and enlarge each good negative and return to me postpaid. If C.O.D. mark X here ☐

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For LEICA or CONTAX**

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SPEED-O-COPY added to your Leica or Contax gives you all the advantages of a view camera.

SPEED-O-COPY makes a perfect copying machine of your camera.

SPEED-O-COPY sharp ground glass focusing will cut your COLOR PHOTOGRAPHY losses to a minimum.

SPEED-O-COPY is ideal for photomicrography, small object study of flowers, insects, etc., table top photography, and in fact in any photography where you have the time to focus.

**STOP AT YOUR DEALER TODAY AND SEE  
THE SPEED-O-COPY**

For the Leica, \$28.50

For the Contax, \$31.50

**If You Load Your Own—SPEED-O-CLIP IT\***

\*A speedy film shear for 35mm. film. Makes the proper tapered cut for loading magazines of all types. Made of stainless steel. Either model \$2.40.

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Los Angeles, California

#### 400mm Telyt Lens

THOSE REMARKABLE action shots appearing in the morning newspapers of the latest baseball hero sliding home in a cloud of dust while the catcher frantically leaps for a wild throw a few inches above his outstretched hand are all made with telephoto lenses from some place in the stands. Some of these "big berthas" of the photographic world require the services of several men to transport them.

The Leica camera, long known for its amazing compactness, now enters the ranks of these super-sport cameras by virtue of the new Telyt 400mm lens which has recently been made available for it. This lens has an aperture of  $f/5$  and is focused by means of a Mirror Reflex Housing which gives ground glass focusing up until the moment of exposure.

To give an idea of what this 400mm focal length means when used with the Leica Camera, it should be borne in mind that since 400mm is the equivalent of 16 inches, the lens has a focal length which is 16 times greater than the short side of the  $1\frac{1}{2}$  inch Leica negative. If one wanted to have a similar lens on a  $5\times 7$  inch camera, it would be necessary to have a lens with a focal length of 80 inches, or 6 feet, 8 inches. That would be something requiring transportation by a truck!

For maximum ease of operation, this 400mm lens



may be mounted on the Leica Gun, combining rapid winder action with complete freedom of action for it need merely be mounted on a tripod with a ball jointed head. Thus, it may instantly be swung into any position desired without loss of time in tightening the tripod screw every time it is moved—for, since the butt of the gun rests against the shoulder, it may be held steadily on the subject.

Full information on this 400mm Telyt lens may be obtained from E. Leitz, Inc., 730 Fifth Avenue, New York, N. Y.

#### Foot Switch and Photo Dryer

A FOOT SWITCH that is practical, fits the foot comfortably, light in weight and guaranteed to work perfectly, has just been introduced by TRUPHOTO PRODUCTS, of 49 Vesey Street, New York City. This foot switch was built after many months of experimenting, testing and criticism by experts in the photographic field. The big feature in addition to all its good qualities is that it sells for only \$1.95.

Truphoto Products are also marketing a print dryer. This dryer comes in four different sizes, from 8x10 to 20x25"; a very important feature in this dryer is the two heat current supply—a uniform low 75 watt and high 150 watt for slow or fast work. The print dryer sells for \$6.95.

#### Third Rollei Salon "Rolls On"

Arrangements have now been completed for exhibiting the Third Rollei in the major cities of the East, this fall. The schedule for these showings is as follows:

September 13th, 14th and 15th—in Boston, Mass., Parker-House, Hawthorne Room.  
September 20th, 21st and 22nd—in Buffalo, N. Y., Hotel Statler, Parlors D & E.  
September 27th, 28th and 29th—in Cleveland, Ohio, Hotel Cleveland, Rose Room.  
October 4th, 5th and 6th—in Detroit, Mich., Book-



Cadillac Hotel, Washington Room.

October 11th, 12th and 13th—in Chicago, Ill., Blackstone Hotel, South Room.

October 18th, 19th and 20th—in St. Louis, Mo., Hotel Statler, Rooms 204-206.

October 25th, 26th and 27th—in Louisville, Ky., Hotel Seelbach.

Everyone interested in Rollei-photography is cordially invited to attend. Herbert Peerscke, of Franke & Heidecke, (makers of Rollei-flex and Rollei-cord cameras) will be in charge of the traveling salon and will play host for Burleigh Brooks, Inc., sponsor of the show.

### Federal No. 835 Automatic Fixed Focus Enlarger

A NEW THRILL comes to the miniature camera owner in finding that he can now make enlargements to generous album size with less effort than making a contact print. With the introduction of the Federal Model No. 835—Automatic Fixed Focus Enlarger, all that one need do is to insert the paper and Federal No. 835 does the rest. No focusing—no guessing—no trimming—you just press the switch and presto—an enlarged print is made—ready for the developer. The cost is no more than that of a contact print.

No adjustments have to be made. The lens is in focus at all times.

Place a double frame 35mm strip in the open view negative carrier. Press the switch—and a  $3\frac{1}{4} \times 5$ " enlarged image will be clearly visible on the ground glass plate. Put a sheet of  $3\frac{1}{4} \times 5$ " bromide paper in the holder under the ground glass plate. Hold the switch from 5 to 10 seconds and the enlargement is ready for development. That's all there is to it.

Develop the print and a clear sharp enlargement with a border that requires no trimming will result.

Good  $3\frac{1}{4} \times 5$ " enlargements from double frame 35mm film (equivalent sections of negatives up to  $4 \times 5$ " ) can be made at a cost slightly over one cent and  $2\frac{1}{4} \times 3\frac{1}{2}$ " enlargements can be made for less than one cent.

No special printing paper is required.

Federal Model No. 835 works on A. C. or D. C. current. It is priced at \$12.50 and a trifle more on the West Coast.

The open view negative holder permits you to quickly place your negative in position—and view it.

It also serves as a viewer for colored transparencies.

The highly corrected achromatic lens system and the new Federal Parabolic Reflector have been carefully designed to give excellent performance with an even distribution of light, insuring that every print will be a good one. Made by Federal Stamping & Engineering Corp., 15 Lafayette St., Brooklyn, N. Y.

### Combination Developing and Fixing

A combination developer and fixative in one solution is the new D + F, ultra-modern method for all negatives. This revolutionary formula develops and fixes negatives in one operation. Development time for 35 mm. negatives at 65° is 15 minutes and at the end of that time film may be removed in daylight.

Use of this developer cuts dark room work in half and produces negatives free from scratches or other imperfections which sometimes result no matter how carefully film is handled. One quart of D + F develops and fixes 10 rolls of 35 mm. film or their equivalent.

For summer developing, the new Poly-Thermic fine grain developer processes negatives at any temperature from 65° to 100° Fahrenheit.

With underexposed negatives, this new developer is warmed to 90 degrees. At this temperature, development time is only  $\frac{3}{4}$  to 4 minutes, depending on what film is used. A table of instructions and developing times appears on each bottle of Poly-Thermic.

The formula contains no paraphenylenediamine and one quart will develop 12 rolls of 35 mm. film or their equivalent in larger sizes.

For projection and contact prints, Amiot yields brilliant blue-black prints of salon quality. It is a formula especially designed for extreme latitude in paper exposure and development time, making it possible to get excellent prints under difficult conditions.

Full instructions accompany each bottle of the above new units. For additional information write American Scientific Products, Inc., 4674 Hollywood Blvd., Hollywood, Calif.

# NEW!!

## Enlarge THE EASY WAY



**FEDERAL**  
No. 835  
*Automatic*  
**FIXED FOCUS ENLARGER**

Made in U.S.A.

### PRINTS and ENLARGES

Makes  $3\frac{1}{4} \times 5$ " enlargements from double frame 35 mm. negatives (or equivalent sections of negatives up to  $4 \times 5$ " ) for slightly over one cent and  $2\frac{1}{4} \times 3\frac{1}{2}$ " enlargements for less than one cent per print. Does not require special printing paper.

40c Higher on West Coast

Now anyone can enlarge miniature films to generous album size with less effort than making a contact print, and at no greater cost. No focusing required. Simply insert the paper, press switch a few seconds and the enlargement is ready for development.

ASK YOUR DEALER

Descriptive Folder on request.

**Federal Stamping and Engineering Corp.**

24 Lafayette St., Brooklyn, N. Y.

Now!

See-Sharp's Brother . . .

## PIC-SHARP

THE MAGNIFIER FOR GROUND GLASS FOCUSING

"PIC-SHARP" does for ground glass focusing what the SEE-SHARP does for the enlarger. Makes images brighter, three times larger. If it is sharp on the Pic-Sharp, it is needle-sharp on the negative.

Soft rubber . . . fits easily into vest pocket or kit . . . cannot scratch finest glass or equipment.

**Drop It! Step on It! You can't break It!**

"PIC-SHARP" assures sharper pictures! If your dealer hasn't the "PIC-SHARP," send \$1.00 direct to

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## Owners of LEICA, CONTAX, ROBOT, ARGUS and OTHER 35MM CAMERAS

Discover the full beauty of your color films and black and white positives with this brilliant

## 200 WATT ILLUMINATION SLIDE PROJECTOR \$34.50



LONG THROW  
BRIGHT COLOR  
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## DARKROOM HINTS

### Diffuser



An efficient print diffuser can be made from a piece of cellophane and two pieces of glass.

Crumple the cellophane into a ball and then unroll it so that it is flat but full of wrinkles. Place it between the two pieces of glass and bind the edges with scotch tape.

When using the diffuser, hold it about midway between the enlarger lens and the paper easel. As you print, move the diffuser slowly in a rotary motion. Although the cellophane is transparent enough to allow all the light rays to go through, the wrinkles in it bend the light rays enough to give a diffused effect.

Allow about half the correct exposure as usual and then bring the diffuser into play for the remainder of the exposure.

The final effect is dependent upon the proportion of time that you use the diffuser. Only white cellophane should be used.—E. J. Eisenmeier.

### Cut Film Developed in Roll Film Tank

Can a roll film developing tank be used for developing small size cut films and film packs? Yes, but there's a little trick to it. An FR adjustable tank has been used for quite some time in my laboratory for developing  $2\frac{1}{4} \times 3\frac{1}{4}$  cut films and packs. Six films can be easily handled at a time. It is possible to develop more than six but it is less easy to load the tank in the dark. The difficulty in loading cut films is that one film cannot be used to push another around the groove. If that is tried the films overlap and stick together when the developer is poured in.

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The easiest procedure is to slide one film in and then slide it around the groove until it is in the next turn and at the starting position. The second film is inserted and then both films are moved around the groove until the second film is in the second groove opposite the loading position. The third film is inserted and the three films are moved together until they have made a complete revolution. This is repeated until six films have been loaded. When the loading is completed the development manipulation proceeds as usual.—C. W. Gibbs.

### Black Border on Prints

Sometimes a picture has the appearance of running out of its frame.

This is particularly true of dense prints or outdoor scenes when it is difficult to print in the sky details. In order to keep the eye from straying outside the picture, and at the same time greatly increase the effect of the photograph as a whole, a single thin black border completely around the picture is most effective.

A quick and easy way to print in a black border is to trim a piece of cardboard about  $\frac{1}{8}$  inch smaller than the outside of the picture. After the proper exposure has been made, the paper is left on the easel and the cardboard centered so as to leave a border between the cardboard and the frame of the easel. Holding the cardboard firmly in place, a flashlight is placed along the edge of the cardboard which now protects the exposed paper from the rays of the light. With the flashlight turned off, the cardboard is removed and the photograph developed as usual. You will find after develop-



ment is completed the picture is framed with a perfectly black border. A number of cardboard screens may be cut in sizes for the enlargements most commonly made.—Ray Kershner.

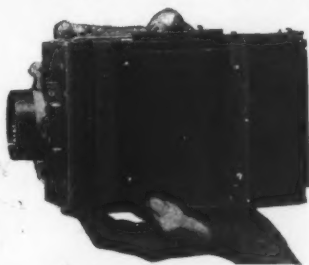
### Filters for Argus

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For filters, gelatine filters obtainable at a photo dealer's are accurate and economical.

Any colored cellophane, however, may be

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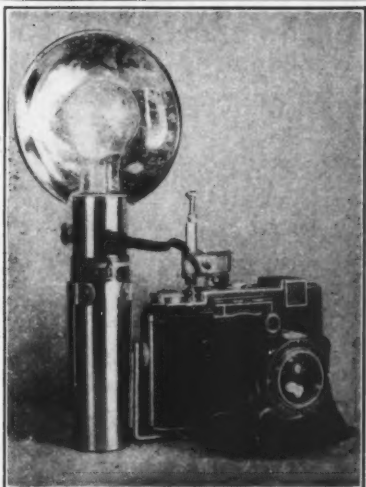


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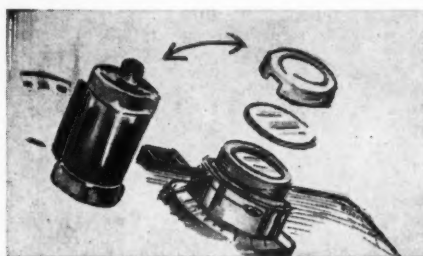
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used. Spotlight gelatine is readily obtainable. With these makeshifts it naturally is necessary to experiment to determine how much exposure need be increased when the filter is in use. There also is some softening of the image, a small amount of diffusion, but this is not objectionable.



To mount the gelatines, obtain half a dozen round microscope glass slides. These cost about 5 cents each and will fit perfectly. Each gelatine is mounted between two glass slides with a piece of adhesive tape round the edge of the glass.

A complete set of filters can be made to go with the filter holder. A yellow, yellow-green, and red filter will furnish an effective set. The yellow is for orthochromatic film, and the yellow-green for panchromatic film. The red is for those ultra-dramatic summer sky scenes.—  
*B. Schultz.*

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With each group of entries, enclose top of a Gevaert film carton.

Prints must be 4x5 inches or larger; UNmounted prints preferred. Do NOT send negatives. MINICAM cannot assume responsibility for any prints lost, but all pictures will be handled with care.

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Address: GEVAERT FILM PICTURE CONTEST, MINICAM MAGAZINE, 22 East 12th St., Cincinnati, Ohio.

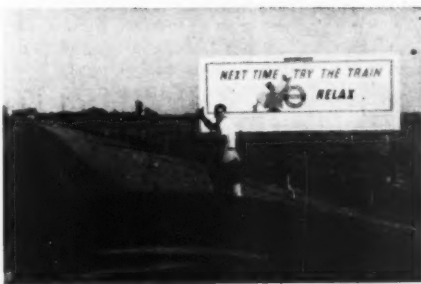
## SHOOTING "ON THE HOOF"

By Merritt W. Bradshaw

NOT so long ago I became interested in photography and I have now developed what I consider a very novel, interesting and somewhat profitable pastime with my camera. Perhaps you would say I have specialized but to me it is still just a hobby within a hobby.

Like many an amateur photo-maniac of today, I have a reasonably priced candid camera which I carry with me about 99 per cent of the time—just in case. It is a pretty safe bet that even when driving my car, my minicam will be either in my hand or on my lap. That is where my hobby enters the story.

My work causes me to do considerable driving, and one day as I was rolling along the highway, I saw a tramp sitting with his back against a bank at the side of the road. There



● Through the windshield, f/5.6 at 1/200th.

he sat, one leg thrown over the other, arms folded on chest, hat tipped over his eyes, enjoying a midday siesta. As I sailed by I thought to myself: "I wish I had a picture of that fellow." It looked like pictorial material. However, I just kept going. As the days rolled by, I past many unusual sights, until finally an idea



struck home. Why not set my camera at about 1/200 second, f/5.6, and then take my snapshots "on the hoof?" That started me on a new and exciting game of "shoot as you go."

You don't get a perfect picture every time, but it is a great sport if you don't get reckless or careless with your driving.

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## ??? QUESTIONS ???

*to the Editor*

**Q.** Using chromium plates for ferrotyping, they become discolored from use and result in a poor print surface. How can chromium plated ferrotyping tins be cleaned?

**Ans.** Normally it is necessary only to wash chromium plates with warm soap and water to keep them in good condition. If the plates become tarnished, they can be restored by polishing with silver polish.

**Q.** In printing, one edge of my prints always seems to be fuzzy and less sharp than the rest. Why?

**Ans.** If in contact printing, it is likely that your printer is not making perfect contact between film and paper. If in enlarging, this fault occurs if the easel is not perfectly level and parallel to the plane of the enlarger lens. Using a smaller stop in the enlarger, in such case, will bring the entire print into focus, but a better solution would be to level your easel.

**Q.** I have a box of printing paper in which the sheets have become mixed. How can I tell which is the emulsion side?

**Ans.** Sensitized paper curls slightly, with the emulsion inside. Biting a corner, the coated side tends to stick to the teeth. Observed under the safelight, the emulsion side can readily be distinguished by its shininess and yellow color when compared to the back surface of another sheet.



• He's calculating exposure for a gamma 1.0 sunten!

# Cinécam

## TRICKY EIGHT

*Without special accessories, effective and baffling stunts can be filmed with any amateur cine camera.*

By HERBERT C. MCKAY, F. R. P. S.

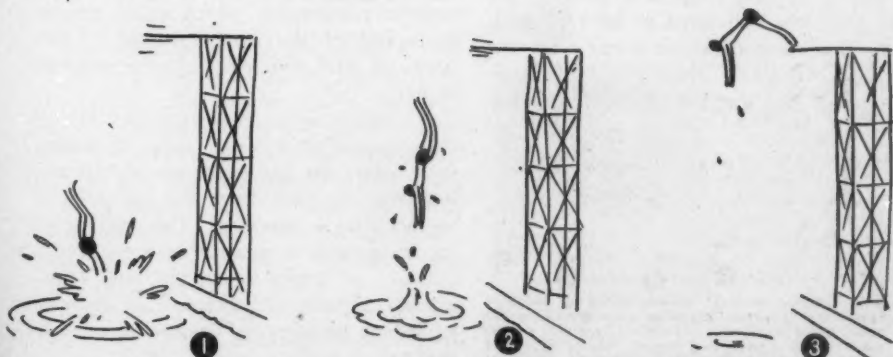
THE motion picture camera is not a mere recording device for making animated snaps; it is a veritable magician's wand which can be made to produce miracles at a dime a dozen. Trick work has an eternal appeal and it goes far to hold the attention of any audience.

Film effects are produced by controlling the velocity or direction of film movement or of the area of the film exposed

at any one time.

With any cine camera, three trick effects obtainable without recourse to special accessories are: (1) Reverse action. (2) Interrupted action. (3) Film velocity control.

TO say that film run through the camera backward will record action in reverse is to make a most obvious statement, but when we stop to consider just



• The diver rises out of the water up to the springboard. For this reverse action effect, it is necessary only to photograph the scene with the camera turned upside down, or run the film backwards in the projector.

Fig. 1.

what can be done with reverse motion, a whole new world of effects opens before us.

A bowl full of rice emptied into a platter will rise from the platter and pile up into the bowl. Water poured upon the ground will rise like a spring. If a ball is carefully balanced upon a slender rod and then allowed to fall, it will jump into the air and perch upon the rod. A cloud of smoke blown through a rubber tube to rise from the neck of a bottle will become a veritable Genii, for the cloud of smoke flows back into the bottle. Divers who rise from a lake and soar up to a springboard are familiar newsreel characters.

All of these things are easy with the eight or with any amateur camera by merely *turning the camera upside down*. This is not difficult to understand, for when the film is returned from the laboratory the action will progress forward, just as it did when filmed, but the actors will be upside down. To bring them right side up, the film merely is run backwards. If this sequence is part of a reel it naturally will be necessary to cut it from the roll.

In the case of the "eight" the sprocket holes must be kept on the same side of the film so that the reversed strip will have its emulsion on the side opposite to that of the rest of the film. For this reason it is advisable to keep the reverse action in as long lengths as possible, for the projector will have to be refocused. This limitation does not occur with the 16 mm. camera.

One of the simplest and yet most ef-



- Film velocity control. Photographing a marching figure, four positions normally are recorded in the order above numbered. Changing from the normal speed of 16 frames per second, results in varied effects. This principle is utilized for the filming of miniature sets and a train wreck photographed at 64 frames per second and then projected at the rate of 16 frames assumes all the detail of full-sized reality. Fig. 2.



- Ghost effects and sleight of hand tricks are accomplished by stopping camera in the middle of an action, introducing a new character, and then again starting camera. Fig. 3.

fective trick devices for amateur use is interrupted motion. If two people are seated at opposite sides of the table playing cards a third one may be made to appear suddenly. Just stop the camera, which should be on a tripod, while the two players hold their positions. Then have the third player sit in. Start the camera again and there you are.

A magical breakfast may be filmed by snowing someone seated at an empty table. First the silverware and napkin appear, then one by one the dishes make their appearance. If the actor does his part to create the illusion the effect will be perfect.

By this simple device of stopping the camera while new characters or objects are brought into view anyone can perform the most mysterious sleight of hand tricks, although the trickery is all in the camera. The best feats of the stage magician may be duplicated and even excelled.

**L**ET us consider, finally, the effect of controlling film velocity. There is a definite relationship which exists among the speed of the camera, speed of the projector and the speed of the original object.

A motion picture is a succession of still pictures projected in such rapid succession that before the image of one picture has had time to fade from the vision, it is replaced by a new one. This lagging of the image lasts from a fifth to a tenth of a second; to amply cover the time lapse, motion pictures are screened at the rate of sixteen pictures or "frames" to the second.

Action is reproduced in its original velocity by having the speeds of camera





• Famed "Marie Antoinette" Camera Crew . . . at left, William Daniels, ace Hollywood cameraman, and his assistant, Al Lane, who operates the camera. Since virtually all of the interior scenes are photographed in candlelight, Daniels is doing a remarkable technical job in lighting the vast sets for the film.

## *How Hollywood uses the* **EXPOSURE METER**

*Where precision is the keynote, every detail is worked out with matchless technique, and every frame becomes a perfect exposure.*

By WILLIAM H. DANIELS, A. S. C.

*Director of Photography on M-G-M Productions*

ONE of the biggest problems of a studio cinematographer is the one faced whenever his company leaves the sound stage to make exterior scenes. On the stage, every element of lighting is a familiar factor, under absolute control. Matching exposures—and hence the photographic quality of his scenes—is no trick at all. But outdoors, the photographic

value of sunlight changes from day to day, and from minute to minute. It is a real problem to keep the exposures uniform.

At least, it used to be a problem. But for the last few years I have solved that problem by using a photoelectric exposure meter religiously. My meter is as much a part of my photographic equipment as is the camera itself. It has saved me time,



trouble and retakes on every production I have photographed during the last four or five years.

For instance, when I was directing the photography of Metro-Goldwyn-Mayer's outdoor musical production, "Rose-Marie", I had the problem of photographing a scene of Jeannette MacDonald and Nelson Eddy singing a duet outdoors, under the mountain pines. There was no less than six cameras trained on this scene, covering every possible angle—long-shots, medium-shots and close-up shots of each singer—so that we could film every part of the sequence at once.

Just think what that means in terms of exposure. Each of those six cameras "saw" the action from a different angle. Each lens found a different amount of light reflected to make its picture. No one exposure setting could possibly be correct for all six cameras.

As usual, I put the question up to my Weston. It was simple enough to take a meter reading for each camera, and to adjust the lenses accordingly.



● No less than six cameras were trained on this scene from "Rose Marie," covering every possible angle, in order to film several parts of the story at once, but when the sequences were put together in the editing room, they matched perfectly. Note that while this photograph was taken in bright sunlight, there are no harsh shadows on the face of the subject, and the eyes are shown in clear detail. Proper exposure, based on measured light values, is the answer.

The result was that all six negatives developed normally and identically, and all six scenes printed with the same normal setting of the printer. On the screen, there



● How would you measure correct exposure for both foreground and background in this scene from the current "Marie Antoinette"? Although meters are designed to give proper exposure settings from camera position, many careful workers prefer to follow the Hollywood technique, measuring the light reflected from each area within the scene where tonal values are most critical.

wasn't a hair's difference between the six scenes as regards exposure and photographic quality.

In a case like that, one must of course know how to use the meter, so that a really correct reading is given for the varying angles covered by each different camera and lens. This is very simple. For long-shots, where we ordinarily use a 40mm. lens, I take my reading holding the meter at camera position. For close shots—medium-shots, "two-shots," and the like—where we ordinarily use a 75mm. lens, I take the reading with the meter about halfway from the camera to the players. For close-ups—anything from a head-and-shoulders angle to a big head—for which we use a 4-inch lens, I take the reading holding the meter about one-third of the distance from the actor to the camera. This makes the meter's electric eye "see" the same view included by the camera.

It is important, of course, to hold the meter correctly. First of all, it must be held at the same height as the camera's lens; otherwise, it will "see" a slightly different picture, with different light values. Also, it must be held parallel to the lens, so that it does not include too much or too little sky. Often, when there is a big ex-

pense of open sky, or light, sunlit areas adjacent to the picture, like water, beaches, rocks or buildings, it is a good idea to shade the meter to cut out unwanted reflected light from these areas, just as you shade a camera's lens.

I have found the meter invaluable in filter work, where correct exposure is so important. On one occasion I found myself up against the problem of making normally filtered daylight shots and heavily filtered night effects on the same film. This was on a trip through New Mexico's Indian country. At each camera set-up I would first make a day-effect scene, using an Aero 2 or a G filter. Then I would duplicate the scene for a night-effect, using the same DuPont Superior film and a heavy 72 filter.

There are two ways of using the meter in filter work. You can, for instance, take a normal reading and then calculate the filtered exposure yourself. Or you can let the meter do the calculating and get a direct reading for the filtered exposure. All that is necessary for this is to divide the film's normal speed-value by the filter's multiplying factor, and to re-set your meter's film-speed setting using the result of this division for your adjusted film-speed.

Suppose, for instance, you are using a film whose speed is Weston 24. With a light-value reading of 200, your correct normal exposure at 1/50 second would be f11. Using a filter with a multiplying factor of 4, your adjusted film-speed setting would be 6, and under the same condition, your corrected reading would be f5.6. If you figure the four-times exposure mathematically, you will get f5.5—practically an identical reading to that given directly by the meter, but one that takes much more time to reach.

When I am working outdoors, I always use regular incandescent lamps as "boosters," in place of reflectors. This mixture of natural and artificial light doesn't bother the meter at all. I take my reading in the usual way, and the results are always correct. Occasionally, when we

### COMPARISON OF LENS ANGLES

| 35 mm. cameras |          |                | horizontal<br>angle obtained |
|----------------|----------|----------------|------------------------------|
| mm.            | inches   |                |                              |
| 40 mm.         | (1 5/8") | For long shots | 31°                          |
| 75 mm.         | (3 ")    | Medium shots   | 17°                          |
| 100 mm.        | (4 ")    | Closeups       | 13°                          |
| 16 mm. cameras |          |                |                              |
| 20 mm.         | ( 3/4")  |                | 27°                          |
| 25 mm.         | (1 ")    |                | 21°                          |
| 50 mm.         | (2 ")    |                | 11°                          |
| 8 mm. cameras  |          |                |                              |
| 12 1/2 mm.     | ( 1/2")  |                | 20°                          |
| 25 mm.         | (1 ")    |                | 10°                          |
| 37 mm.         | (1 1/2") |                | 7°                           |

- For long shots, Hollywood cinematographers take the meter reading from camera position. For medium shots, from about midway between camera and subject. For closeups, the meter reading is taken from about one-third of the distance from the actor to the camera. This allows the "electric eye" of the meter to take in about the same angle of view as the camera lens.

have to work outdoors very late in the day, I drop the meter's film-speed setting one point—say from 24 to 20—to compensate for the yellower quality of the light. This, as I have proved many times, takes care of that problem perfectly.

On my current production, "Marie Antoinette," starring Norma Shearer, we had many photographic problems, including scenes with thousands of "extras" and immense sets, which represent too much expense to allow any sort of photographic gamble. All of the tens of thousands of feet of film exposed—interiors and exteriors alike—were so uniformly exposed that the whole picture could be printed using but two of the printer's range of twenty-one light adjustments. The meter has played a big part in making this possible. What is more important to me personally is that it has taken what would otherwise be a tremendous technical worry away from me, and left me free to devote myself to the art, rather than the mere technique of cinematography.

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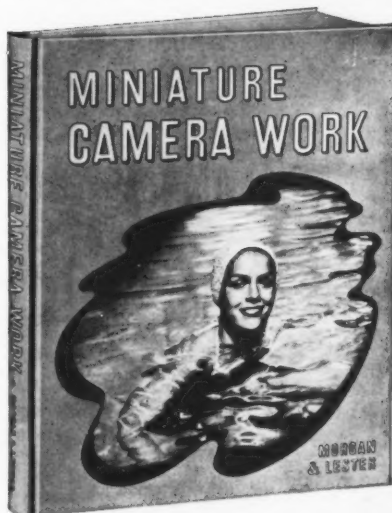
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